Established 1835.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

An Illustrated Record of Mining, Metallurgical, Railway, Financial, Industrial, And Engineering Progress.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper and for Transmission Abroad.*]

No. 3093.—VOL. LXIV. LONDON, SATURDAY, DECEMBER 1, 1894. PRICE ..... SIXPENCE. BY POST, £1 4s. PER ANNUM

A. CORNFORTH AND CO.,
STOCK BROKERS AND MINING SHARE DEALERS,
33, OLD BROAD STREET, E.C.; AND
Mining Exchange, London.

BUSINESS IN ALL CLASSES OF STOCKS AND SHARES.
SPECIAL BUSINESS in KAFFIR Shares. Prompt Delivery made a special feature.
Mining Circular free on application.
BANKERS: CITY BANK.—Telegraphic Address: "Athelney, London."

ASSAY OFFICE AND LABORATORY.
B. KITTO'S,
30 and 31, ST. SWITHIN'S LANE, LONDON, E.C.

ASSAYS MADE OF ALL ORES. ANALYSES.
ASSAYING TAUGHT.

Messrs. PARKYN and CO.,
MINE OWNERS AND MANAGERS, CONSULTING MINING ENGINEERS AND MINING SPECIALISTS,
UNIVERSAL MINING OFFICES, ROCHE, CORNWALL.
INSPECTIONS, EXPLORING, OPENING-UP and MANAGEMENT of MINES undertaken at home or abroad. Have opened a Mining Inquiry Department, in which, upon payment of a fee of 5s., we reply to any questions relating to Mining matters. Should be consulted by all interested in Mines and Mineral Properties. Latest information *re* the Gold Fields of Australia.

MINERAL PROSPECTING
AND
BORINGS FOR WELLS.
Large Experience. Quick Speed Work Guaranteed.
APPLY TO
VIVIAN'S BORING & EXPLORATION CO.,
(LIMITED)
WHITEHAVEN.
Deepest Borehole in England (3195 *feet*) *put down by this Company who have completed over* 55 *miles of boring.*
Telegraphic Address: "DIAMOND, WHITEHAVEN."

THE ASHBURY RAILWAY CARRIAGE AND IRON COMPANY (LIMITED).
Works:—Openshaw, Manchester.
MANUFACTURERS OF
RAILWAY CARRIAGES, WAGONS, AND TRAMWAY CARS
ALSO
CARS for ELECTRIC & LIGHT RAILWAYS, RAILWAY IRONWORK, CARRIAGE & WAGON WHEELS, MANSELL'S WOOD-CENTRED WHEELS, HYDRAULIC PRESSED WROUGHT IRON WHEELS,
Iron Roofing, Bridgework, Turntables, Water Columns, Builders Ironwork and Contractors' Plant.
Wagons built for cash, or for deferred payments.
London Office:—WESTMINSTER CHAMBERS, 7, VICTORIA STREET, WESTMINSTER, S.W.
Telegraphic Address—"ASHBURYS, MANCHESTER."

CANNOCK CHASE COAL BY CANAL AND RAILWAY.
THE COMPANY SEND COAL BY RAILWAY in Trucks to all Stations, and load Canal Boats at their extensive Wharves on the Anglesey Branch of the Birmingham Canal, adjoining the Colliery; and also at Hednesford Basin, Cannock. For Prices, apply to
J. NEWLAND BROWN,
WARWICK CHAMBERS, CORPORATION STREET,
BIRMINGHAM.
Retail Department: COLMORE CHAMBERS, 1, NEWHALL ST., Birmingham.
London Office: 9 and 10, Southampton Street, High Holborn, W.C.

GOLD ASSAYING, &c.
GENTLEMEN having only a short time at their disposal can obtain SPECIAL INSTRUCTION in ASSAYING ORES of all kinds.
For Prospectuses, &c., apply to
MARTIN and PETHYBRIDGE,
ASSAYERS, &c., LABORATORY AND TESTING WORKS
183, KINGS ROAD, CHELSEA, S.W.

Complete Analysis of Constituents of any Ore from £1 1s. to £2 2s.
GOLD ASSAYS CONDUCTED WITH CHECK, 7s. 6d. PER SAMPLE.
GOLD ORES PRACTICALLY TESTED BY STAMP BATTERY And other processes.

ASSAYING AND METALLURGY.
SPECIAL facilities are given for INSTRUCTION and PRACTICE in the ASSAYING and TREATMENT of GOLD and all other ores in the Metallurgical Laboratories of Kings College, Strand, London. Persons of all ages, are admitted at any time for a period of one month or upwards. Special arrangements are made for those who cannot devote their whole time to the work. The laboratory, besides being open every day, is open 7 to 9 on Friday evenings. For further particulars apply to Professor HUNTINGTON

Messrs. PETER WATSON and Co.,
8, FINSBURY CIRCUS, LONDON, E.C.
(NEAR TO THE STOCK EXCHANGE, AND THE MINING EXCHANGE.

ALL ORDERS and TELEGRAPHIC MESSAGES to Buy or Sell Railway, Bank, Mine, and other Shares and Stocks punctually attended to, at Net Price, for Cash, or for Fortnightly Settlements, with advice as to Purchases or Sales, to be addressed to Messrs. PETER WATSON and Co.

Mr. J. GRANT MACLEAN,
Sharebroker and Ironbroker, Stirling, N.B.
☞ Refers to his Share Market Report on page 1323 of to-day's Journal.

A. and Z. DAW,
CONSULTING MINING ENGINEERS AND MINE MANAGERS,
11, QUEEN VICTORIA STREET, LONDON, E.C.
INSPECT AND REPORT UPON FOREIGN METALLIFEROUS MINES, AND UNDERTAKE THEIR MANAGEMENT AND ADMINISTRATION.

BRITISH GUIANA AND THE NEW GOLD INDUSTRY.

BRITISH GUIANA BANK.
Incorporated by Ordinance of the Governor and Court of Policy of British Guiana 11th November, 1836.
Confirmed by the Queen in Council, 6th October, 1838.
SUBSCRIBED CAPITAL..... $1,400,000 | PAID-UP..... $926,520
RESERVE FUND, $288,000
CHAIRMAN: JAMES THOMSON.
HEAD OFFICE: GEORGETOWN, DEMERARA.
MANAGER: GEO. W. LANE. | ACCOUNTANT: E. J. N. THOMAS.
BRANCH OFFICE: NEW AMSTERDAM, BERBICE,
AGENTS. London..... Smith, Payne, and Smiths.
New York..... Maitland, Phelps, and Co.
British North America Bank of British North America.
Newfoundland ..... Union Bank of Newfoundland.
Current Accounts opened in accordance with the usual practice of Bankers.
Money Received on Deposit on Interest. Bills of Exchange negotiated.
Letters of Credit issued by London Agents on Demerara free of charge.
Raw Gold Purchased or Shipped on Consignment.
Bills Collected and every other description of Banking Business transacted.

THE BANK OF AFRICA (LIMITED).
ESTABLISHED 1879.
Head Office, 113, Cannon Street, London.
SUBSCRIBED CAPITAL £750,000
Paid-up, £250,000; Reserve Fund, £135,000.
General Manager—JAMES SIMPSON, Cape Town.
BRANCHES
Aliwal North, Cape Town, Cradock, East London, Grahamstown, Kimberley King Williams Town, Oudtshoorn, Paarl, Port Elizabeth, Queen's Town Bethlehem, Bloemfontein, Fauresmith, Harrismith, Ladybrand, Winburg Durban, Newcastle, Pietermaritzburg, Barberton, Johannesburg, Pretoria Vrijheid, Beira, Delagoa Bay.
The Bank issues drafts, makes telegraphic remittances, buys and collects bills, and conducts all kinds of banking business.
Deposits received on terms which may be ascertained on application.
R. G. DAVIS, Secretary.

SOUTH AFRICAN TRUST AND FINANCE COMPANY (LIMITED).
SUBSCRIBED CAPITAL - - £413,646.
BOARD:
B. B. TRENCH, Esq., Chairman.
Sir CHARLES METCALFE, Bart.
L. BALFOUR BURNS, Esq. | GEO. H. RAW, Esq.
Sir STUART S. HOGG.
Head Office:—1, Crosby Square, London, E.C
South African Office: Colonnade Buildings. Johannesburg.
General Manager in South Africa:
ROBERT ALLEN.
Manager and Secretary:
JOHN S. SHELDRICK.
BANKERS:
London and South Western Bank (Limited).
The Manchester and Liverpool District Banking Company (Limited).
The Standard Bank of South Africa (Limited).

The Company undertakes the following business:—
The skilled investment in South African Mining, Land, or other securities for European investors.
Professional and confidential reporting upon companies, mines, mineral properties, lands, and generally advising European shareholders and others in South African ventures.
Acting as agents on behalf of principals interested in South African investments, and for the protection of their interests.
The receiving of money on deposit.
Financing or advancing moneys to corporations, companies syndicates, or persons in South Africa.
The purchase and sale of properties, and all classes of South African securities or interests.

A SPECIAL CABLE CODE FOR PROMPT AND ECONOMICAL COMMUNICATION BETWEEN THE SOUTH AFRICAN AND LONDON OFFICES.
Further information can be obtained at the Head Office of the Company.

EDWARD HALSE, A.R.S.M.,
MINING ENGINEER,
Memb. Inst. Mining and Metallurgy; Memb. N. Engl. Inst. Mining and Mechanical Engineers, &c.,
EXAMINES & REPORTS ON MINES in REPUBLIC of MEXICO
POSTAL ADDRESS: APARTADO 512, MEXICO, D.F.
CABLE ADDRESS: HALSE, MEXICO.
Moreing and Neal's and A. B. C. Codes used

R. C. CAMPBELL-JOHNSTON.
(OF SWANSEA, INDIA, AND THE STATES.)
THREE YEARS IN BRITISH COLUMBIA.
MINING ENGINEER AND METALLURGIST
POSTAL ADDRESS: BOX 40 VANCOUVER, B.C.
CABLE ADDRESS: CAMPBELL-JOHNSTON, VANCOUVER.
A.B.C. CODE.
MINES EXAMINED AND REPORTED ON, DEVELOPED AND MANAGED.
Furnaces, Mills, and Mining Plants Planned and Erected.
ORES BOUGHT AND SOLD.

THE GOLD FIELDS OF WESTERN AUSTRALIA.

ALBERT F. CALVERT,
MINING ENGINEER.
Author of "Western Australia and its Gold Fields"—"The Discovery of Australia"—"The Mineral Resources of Western Australia," &c., &c.
Editor and Proprietor of the *West Australian Review*, a Weekly Newspaper devoted to Westralian interests.
Undertakes MANAGEMENT, INSPECTIONS, SURVEYS, and guarantees reliable Mining Reports on all West Australian and other Mines.
Writing to the *Financial News* of 23rd November, on the Gold Fields of Western Australia, Lord Percy Douglas says:—"From his intimate knowledge of the subject, gained by personal experience in Western Australia, as well as on nearly every gold field in the world, I consider there is no one better qualified to express an opinion on the subject than he (Mr. Albert F. Calvert). In fact, he is the only man that I know of in this country who has visited all the gold fields of this immense colony."
Address—47, Old Broad Street, E.C.
Telegrams and Cables—"Quarterage, London."

J. M. SMITH,
Late Manager of the "AUSTRALIAN MINING STANDARD," is now located at
COOLGARDIE, WESTERN AUSTRALIA,
And is prepared to act as Trustee or Local Agent for English Companies. Mines Inspected on reasonable fee. First-class Properties for Sale. Highest references and credentials.
Use NEALE and MOREING'S Code.

Captain Wm. WILLIAMS, M.A.I.M.E.,
MINE MANAGER, CONSULTING MINING ENGINEER, &c.,
76, Eyre Street, and 25, Mining Exchange,
BALLARAT, VICTORIA.
Undertakes the INSPECTION, REPORTING, and MANAGEMENT of MINES and MACHINERY in any part of Australasia. Also the Collection of Mines for absentees.
(UPWARDS OF 20 YEARS HIGHEST REFERENCES AND CREDENTIALS.)

WESTERN AUSTRALIA.
Mr. BRENTON SYMONS, F.C.S., M.I.C.E.,
MINING ENGINEER,
Who has just sailed for the Mining centres of Coolgardie, Murchison, &c., is prepared to undertake INSPECTIONS and SURVEYS, and to Report and Advise upon Mines, Machinery, &c.
For terms and particulars apply to Messrs. PERKINS and St. STEPHENS, Consulting Mining Engineers, 1, Sherborne Lane, King William Street, London, E.C.

PUMPING MACHINERY.
See Illustrated Advertisement every Third Week.
HATHORN, DAVEY and CO., LEEDS.

807 pp. Royal 8vo., Well Bound in Cloth, 21s.
McNEILL'S CODE:
A most comprehensive and complete
MINING AND GENERAL TELEGRAPHIC CODE,
Containing over Forty-four Thousand Phrases, embracing technical terms and sentences, together with various Tables of Surveys, Money, Weights, &c.,
By BEDFORD McNEILL, F.G.S., &c., Mining Engineer.
"Undoubtedly the most complete technical code existing."—*Industries.*
LONDON: WHITEHEAD, MORRIS & CO. (LTD.), 9, FENCHURCH STREET, E.C.

FOR SALE, the following low-priced Shares:

200 Kapanga, 4s 6d	500 Guy Fawkes, 13s	100 Johannesbg. G.F., 4s 6
100 Kaboonga, 2s	250 South. Reefs, 19s. 3d.	200 Day Dawn 3s 3d
570 Coolgardie, 9d	100 St. Augustine, 1s 1d	300 West Mallina, 3s.
500 Vict. & Altamira, 1s 4	200 New Queens, 2s. 3	500 Caratal, 3d.

Special business in Cornish shares.
Apply, W. SEWARD and Co., 7, Drapers' Gardens, E.C
Telegraphic Address—"SEWARD, London."

For Index to Advertisements see Page 1310. For Literary Contents see Page 1322.

INDEX TO ADVERTISEMENTS.

(THOSE WITHOUT NUMBER OF PAGE DO NOT APPEAR IN THIS ISSUE.)

	PAGE.
Aird, J. ... Tubes	—
Ashbury Railway Carriage and Iron Co. (Ltd.) Railway Carriages, &c.	1309
Austin, J. B. ... Mineralogist	1324
Bandell, H. E. ... Agent for Foreign Houses, &c.	1322
Bank of Africa, (Ltd.)	1309
British Guiana Bank	1309
Bennett, Sons, and Co. Fuse Manufacturers	—
Birkbeck Bank	1336
Bowes-Scott and Western Mining Machinery	—
Bute Works Supply Company (Limited) ... Steel Rails, &c.	1324
Business Cards	1334
Campbell-Johnston, R. C. Mining Engineer	1309
Calvert, Albert E. Mining Engineer	1309
Cannock Chase Colliery Company ... Coal Exporters	1309
Cassel Gold Extracting Co. (Ltd.) MacArthur-Forrest Process	1335
Champion Rock Borer Co. Rock Borers	1311
Charles Griffin and Co. Publishers	1336
Clarkson-Stanfield Concentrator (Ltd.) Dry Concentration	1313
Companies and Legal Announcements	1333
Corruferth and Co. Share Dealers	1309
Cotton Powder Co. (Ltd.) Explosives	1333
Davey, Paxman and Co. Mining Machinery	—
Davies, Henry Mining Engineer	1324
Davis and Son Mining, &c., Instruments	1313
Daw, A. and Z. Mining and Civil Engineers	1309
Daw, A. and Z. Rock Drills	1338
Daw, A. and Z. Metal	1340
Delta Metal Co. (Ltd.) Iron Roofs and Buildings	—
Dixon and Co.	
Elliman, Sons, and Co. Embrocation	1336
Epps and Co. (Limited) ... Cocoa	1335
Felten and Guilleaume ...Wire Ropes, &c.	—
For Sale	1333
Francis and Jenkins Copper Works Ladles	1337
Fraser and Chalmers (Ltd.) Mining Machinery	1310
Frictionless Engine Packing Company ... Engine Packing, &c.	1311
Galloway's (Ltd.) ... Steam Boilers	—
Gates Ironworks Co. ... Rock and Ore Breaker	1339
Gilkes and Co. Turbines	1335
Green, G. Ore Dressing Machinery	1340
Hardy Patent Pick Co. High Class Tools	1338
Hathorn, Davey and Co. Pumping Engines	1309
Halse, E. Mining Engineer	1309
Holman Bros. Rock Drills and Compressors	1313
Howes, S. Turbines	1340
Humboldt Engineering Works Co. Mining Machinery	—
Humble, S., jun. Hand Power Fan	—
Huntington, Professor ...Instruction in Assaying	1309
Ingersoll-Sergeant Drill Co. of America. Rock Drills and Compressors	1310
Ireland, James *Colliery Ready Reckoner*	1334
Jones, J. A. Mining Engineer	1324
Kitto, B. Assay Office	1309
Krupp Grusonwerk... Ore Extraction Machinery	—
Larmuth, T., and Co Mining Machinery	—
Lancashire Patent Belting Co. Mining Specialities	1335
Lancaster and Tonge ... Steam Pistons	1311
Lewis and Sons ... Tubes	1310
Lloyd and Lloyd ... Tubes	1338
Maclean, J. Grant ... Share and Iron Broker	1309
McNeill's Code	1309
Marsden, H. R. Stone Breakers and Ore Crushers	1340
Martin and Pethybridge Assay Laboratory	1309
Merry and Co. Assayers	—
Merton and Co. ... Aluminium	1312
Messrs. Parkyn and Co. Mine Owners and Managers	1309
Miner's Safety Explosive Co. (Ltd.) Explosives	—
Nobel's Explosives Co. (Ltd.) Water Cartridges, &c.	1337
Pacific Mining Agency and Trust Company... Commission Agency	1324
Parkin ... Signal Bells	1335
Pass and Son Buyers of Lead Ashes, &c.	1324
Phosphor Bronze Co. (Ltd.) ... Bulls Metal, &c.	1335
Piggott and Co. Welded and Rivetted Pipes	1349
Publications	1334
Reliance Oil and Grease Co. "Valve Oleine" Cylinder Lubricant	1338
Robey and Co. Engines and Ore Crushers	1335
Roburite Explosives Co. (Ltd.) Explosives	—
Ropeways Syndicate Aerial Wire Ropeways	1335
Rose, James *New Guide to the Iron Trade*	1234
Sales by Auction	1333
Sandycroft Foundry Company Mining Machinery	
Sandycroft Foundry Company Electrical Machinery	1337
Schram and Co. Rock Drills and Compressors	1312
Seward, William Share Dealer	1309
Shipping	1331
Smith, J. M. Mines Inspected	1309
South African Exhibition	1323
South African Trust and Finance Co. (Ltd.) ...Investments, &c.	1309
Spencer, John Iron and Steel Tubes	—
Stanley, W. F. Mathematical Instruments	1310
Stewart and Clydesdale Iron and Steel Tubes	1312
Symons, Brenton Mining Engineer	1309
Tacknote *Form of Licence to Explore*	1334
Tangyes Limited Engines, &c.	1311
The Royal Bar-Lock Type Writer	1336
To Let	1333
Tuck and Co. (Ltd.) Packing Manufacturers	1340
United Asbestos Co. (Ltd.)... Asbestos	1336
Unity Safety Fuse Co. Safety Fuse	1337
Vivian's Boring Co. (Ltd.) Boring Machinery	1309
Walker Brothers ...Air Compressing Engines	1212
Wanted	1333
Watson, P. and Co. Share Dealers	1309
Weatherdon, J. H. "Monarch" Rock Drill	1335
Wiggin and Co. (Ltd.) Nickel Refiners	132
Williams, Captain William Consulting Mining Engineer	1309
Wood, Charles Portable Railways, &c.	1311

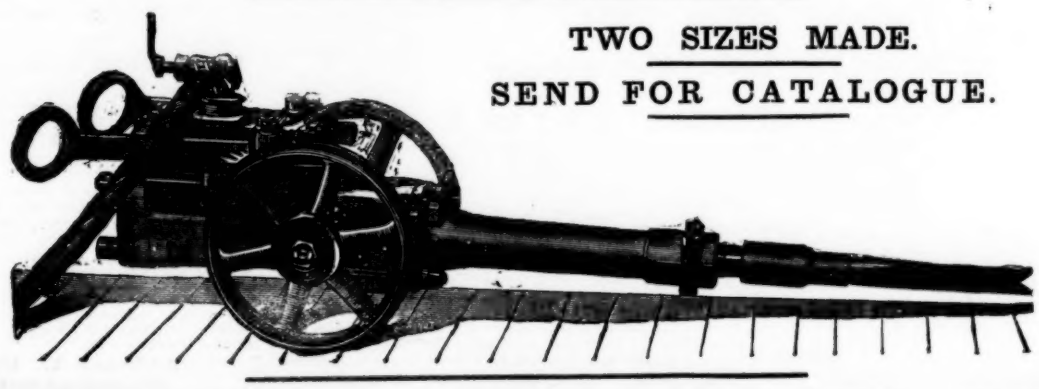
The "SERGEANT" COAL MINING MACHINE.

UNEQUALLED IN SIMPLICITY AND EFFICIENCY.

TWO SIZES MADE.

SEND FOR CATALOGUE.

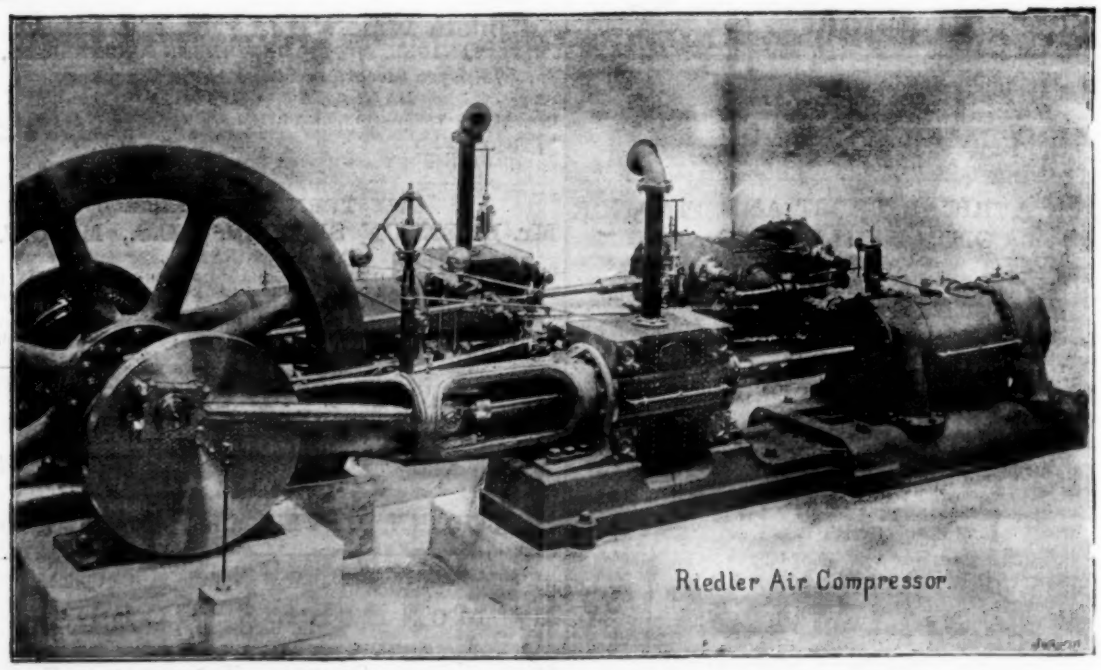
TELEGRAMS: "ENYAM, LONDON."



A. E. W. GWYN, AGENT.

THE INGERSOLL-SERGEANT DRILL CO.,

114a, Queen Victoria Street, London, E.C.



Riedler Air Compressor.

FRASER AND CHALMERS,

LIMITED.

Makers of all Classes of Improved MACHINERY FOR

MINING, MILLING, SMELTING, CONCENTRATION AND LEACHING.

RIEDLER SYSTEM

Of PUMPS and COMPRESSORS insuring highest efficiency. The use of mechanically controlled valves allows of high piston speed under heavy pressure, resulting in reduction of size of engine for given duty and greater economy of steam. At Paris the Riedler System effected a great economy of fuel in the Compressed Air Plant. At the Butte and Boston Mine, Montana, the Riedler Pump effected a saving of 60 per cent. of fuel over pumps previously used.

SEND FOR PAMPHLET.

Works: ERITH, KENT; CHICAGO, ILL., U.S.A.

Office: 43, Threadneedle Street, LONDON, E.C.

"MINING TUBES"

WITH PATENT FLANGES AND SCREWED AND SOCKETED OF ALL KINDS.

EDWIN LEWIS & SONS,

— WOLVERHAMPTON. —

W. F. STANLEY

Mathematical Instrument Manufacturer

To H.M. Government, Council of India, Science and Art Department, Admiralty, &c.

MINING, SURVEYING AND DRAWING INSTRUMENTS

OF EVERY DESCRIPTION, OF THE HIGHEST QUALITY AND FINISH, AT THE MOST MODERATE PRICES.

Price Lists post free.

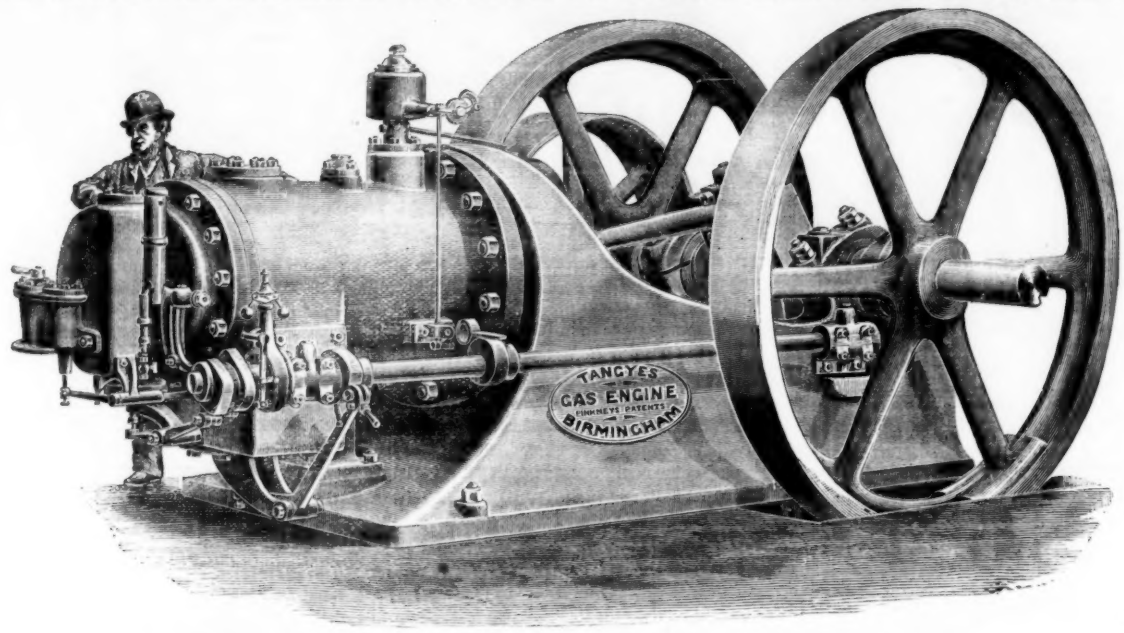
Address—Great Turnstile, Holborn, London, W.C.

GOLD MEDAL, Inventions Exhibition, 1885
" " Mining " 1890

TANGYES' GAS ENGINE.

"OTTO" PRINCIPLE. PINKNEY'S PATENTS.

Messrs. TANGYE have laid down special plant and tools for the manufacture of these Engines, and are able by their system of MULTIPLE MANUFACTURE and of WORKING TO GAUGE to turn them out in the best possible style



The 35 H.-P. (Nom.) Engine—giving 86 ACTUAL HORSE-POWER, and indicating 100 H.P.
Single Engines from ¼ to 146 Actual H.-P. (=170 Ind. H.-P.) and Coupled Engines from 86 to 292 Actual H.-P. (=340 Ind. H.-P.)

Apply for Illustrated and Descriptive Catalogue of Gas Engines to

TANGYES LIMITED, BIRMINGHAM.

ALSO AT

LONDON, NEWCASTLE, MANCHESTER, GLASGOW, SYDNEY, MELBOURNE.
JOHANNESBURG, BILBAO, ROTTERDAM, and CALCUTTA.

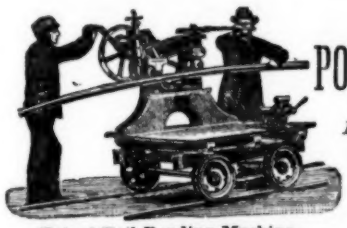
Telegrams—"TANGYES, BIRMINGHAM." No 84c.

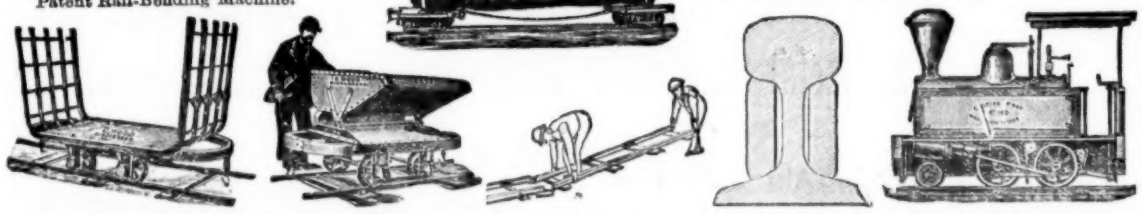
THE "LANCASTER"
STEAM PISTONS AND TRAPS
ARE ALWAYS SENT ON APPROVAL.
LANCASTER AND TONGE, PENDLETON.

THE ENGINEERING AND MINING JOURNAL:
Every Miner, Metallurgist, Investor in Mining Property, and every Dealer in Minerals and Metals should subscribe for it.
Contains everything of interest and value in mining and metallurgy. The fullest mining news. The best coal, metal, and mining stock market reports.
It is the BEST ADVERTISING MEDIUM for all kinds of Machinery, Tools, Hardware, and Supplies used in the mining regions; for Electrical Appliances and Machinery; for Metals of all kinds; for Mining Property for Sale, &c.
Subscription Price $5.00 a Year for the United States, Canada and Mexico, $7.00 a year for other Countries in the Postal Union. Published Weekly.
THE SCIENTIFIC PUBLISHING COMPANY
Booksellers and Publishers of Technical and Scientific Books.
253. BROADWAY, NEW YORK.
LONDON OFFICE: 20, BUCKLERSBURY, E.C.

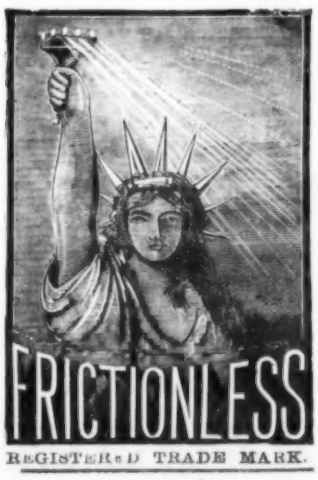
"CHAMPION"
ROCK DRILLS
Have all the latest improvements resulting from 19 years' practical experience in constant work.
Unrivalled for efficiency and durability in Sinking Shafts, Driving Levels & Tunnels.

WOOD'S
PORTABLE RAILWAYS & ROLLING STOCK,
FOR PLANTATIONS, MINES, TRAMWAYS, &c.
EMPLOYED at all PARTS of the WORLD.
Illustrated Catalogue, Price Lists, and Estimates forwarded on Application to


Patent Rail-Bending Machine.



CHARLES WOOD, TEES IRON WORKS, MIDDLESBRO', ENGLAND.



REGISTERED TRADE MARK.

THE
Frictionless Engine Packing Co.
(SMALL and PARKES),
Cable Mills, Glasshouse Street, Oldham Road, MANCHESTER.

MANUFACTURERS OF ALL KINDS OF
Engine and Pump Packings, Indiarubber Goods, Asbestos Goods; Hair and Cotton Beltings.
Sole Makers of Electric-Frictionless Packing, "Railite" Packing, High-Pressure Semi-Metallic Packing (Small's Patent), &c., &c.

Telegraphic Cable Address: "PACKLESS," Manchester. Highest Awards Wherever Exhibited.
SEND FOR PRICE LISTS AND TESTIMONIALS.

THE CHAMPION ROCK-BORER AND AIR COMPRESSOR CO.
SOLE PROPRIETORS AND MANUFACTURERS,
E. P. and H. P. VACHER,
MAKERS OF ROCK DRILLS, AIR COMPRESSORS,
TURBINES, WATER WHEELS, WATER MOTORS, RAMS,
AND OTHER
MINING MACHINERY.
63, Queen Victoria Street,
LONDON, E.C.
Telegraphic Address: "TURNSCREW, LONDON."

LIVERPOOL JOURNAL OF COMMERCE
Is the best FINANCIAL and COMMERCIAL PAPER in the Provinces.
Is now Enlarged to Eight Pages.
Contains more Commercial and Shipping News than any other Morning Paper.
Proprietor, CHARLES BIRCHALL, 32, Castle Street, Liverpool.
LONDON OFFICE.—38, GRACECHURCH STREET.

WALKERS'
"PATENT"
INDESTRUCTIBLE
VENTILATING FANS
FOR MINES, TUNNELS, &c.
CONSTRUCTORS OF THE VENTILATING MACHINERY AT THE SEVERN AND MERSEY TUNNELS.

PATENT ANTI-VIBRATION SHUTTER
Applicable to all enclosed Fans

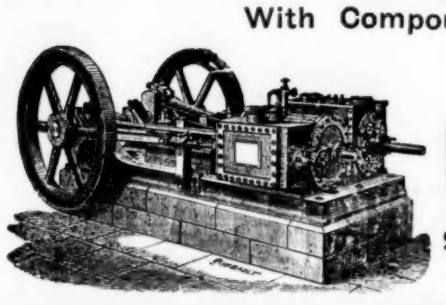
WALKER BROTHERS
Engineers,
Pagefield Ironworks,
WIGAN.

PATENT AIR COMPRESSING ENGINES
GAS COMPRESSING ENGINES
BESSEMER BLOWING ENGINES

upwards of 400 of the above now AT WORK indicating in the aggregate 150,000 Horse-Power

Fisher & Walkers' Patent Friction Clutch & Underground Haulage Machinery
THIS GEARING IS NOW EXTENSIVELY IN USE FOR HAULAGE PURPOSES.
The objects attained are SIMPLICITY, ENDURANCE OF THE MACHINERY AND ROPES with a MINIMUM EXPENDITURE OF POWER.

AIR COMPRESSORS
With Compound Air and Steam Cylinders,
Fitted with SCHRAM'S Inlet and Outlet Valves giving the greatest efficiency.



SCHRAM'S IMPROVED
Rock Boring Machines.
Supplied to the Indian, Colonial, and other Governments.
2500 IN USE in all PARTS of the WORLD.
DIAMOND PROSPECTING DRILLS.
"OPTIMUS" COMPOUND ROCK DRILL.
(P. J. OGLE'S PATENT.)
Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.
ESTIMATES AND FULL PARTICULARS ON APPLICATION.
RICHARD SCHRAM & CO., 17a, Great George Street, Westminster, S.W.
TELEGRAMS: "SCHRAM, LONDON," A1, A.B.C. and The Engineering Telegraph Codes Used.

Telegrams—Green, Foundry, Aberystwyth.

SILVER MEDALS AWARDED AT THE ROYAL CORNWALL POLYTECHNIC, 1872 & 1876; GOLD MEDAL AWARDED AT THE GREAT INTERNATIONAL MINING EXHIBITION, CRYSTAL PALACE, 1890.

ONLY AWARDS GIVEN FOR CONCENTRATION PLANTS

GEORGE GREEN'S PATENT
Self-Acting or Automatic
Ore Dressing Machinery,
A Special Plant, on a reduced scale, has been erected at the Works by which samples of METALLIC ORES—up to Five Tons may be treated, and the commercial value determined, in this way the most suitable arrangement of Plant is ascertained, a considerable advantage to intending Purchasers of Crushing and Concentrating Plant.

GOLD STAMP AND OTHER MILLS.

GEORGE GREEN,
THE FOUNDRY, ABERYSTWYTH.

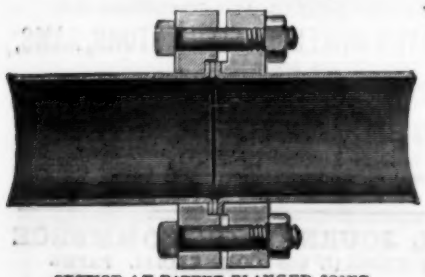
Gold Medal, International Exhibition, Paris, 1889. *Gold Medal, Exhibition of Mining & Metallurgy, London, 1890.*

PURE ALUMINIUM 98 to 99½ per cent. pure; guaranteed 98 per cent. minimum.
FERRO-ALUMINIUM, ALUMINIUM BRONZE, &c.;
For Iron and Steel Workers,
Founders, Engineers,
And all Metal Workers.

ALUMINIUM.

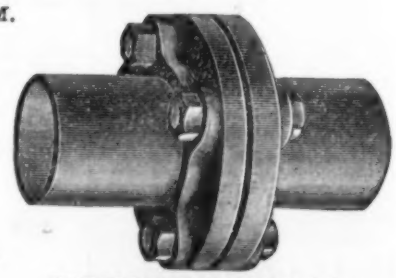
For prices of above apply to
HENRY R. MERTON & CO.,
2, Metal Exchange Buildings, Leadenhall Avenue,
LONDON, E.C.
Sole Agents in Great Britain and Ireland for the Aluminium Industry, Co., Neuhausen, Switzerland.

A. & J. STEWART and CLYDESDALE, Limited.
Glasgow, Coatbridge, and Mossend.



SECTION OF PATENT FLANGED JOINT

WROUGHT IRON WELDED TUBES and FITTINGS for GAS, WATER, and STEAM.
Light Lap-welded Wrought-iron and Steel Tubes
(SPECIALLY ADAPTED FOR MINES).
With Patent Flanged Joints (as illustrated) for the Conveyance of Water, Steam, and Air, at High and Low Pressures.
LAP-WELDED IRON AND STEEL BOILER TUBES
FOR LOCOMOTIVE, MARINE, AND OTHER MULTITUBULAR BOILERS.
STEEL & IRON PLATES FOR BOILERS, BRIDGES, &c.



PLAN OF PATENT FLANGED JOINT.

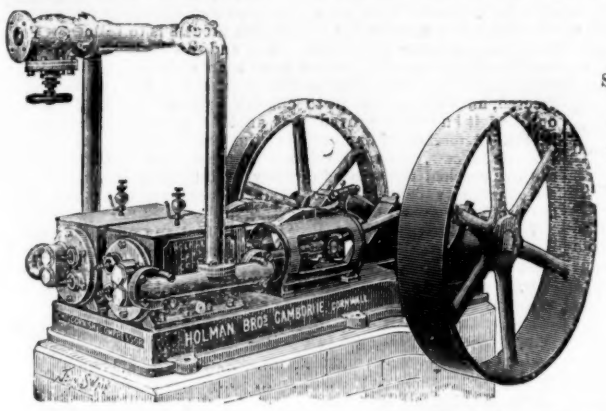
Head Offices: 41, OSWALD STREET, GLASGOW.

HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1839

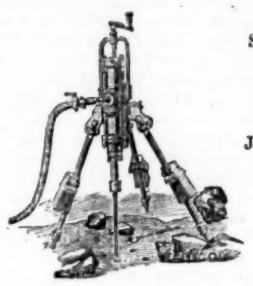
Patentees and Sole Makers of

"THE CORNISH" ROCK DRILL and "THE CORNISH" COMPRESSOR



FIRST SILVER MEDAL, Highest Award, Mining Institute Contest, 1881.

Three Makers represented.



FIRST SILVER MEDAL Highest Award, Royal Cornwall Polytechnic Jubilee Exhibition Contest, 1882.

Five Makers represented.

AWARDED SILVER MEDAL INTERNATIONAL INVENTIONS EXHIBITION, 1885.

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour.

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS a 11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

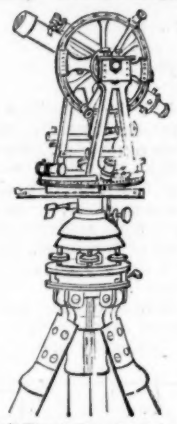
Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY on Application.

London Offices: 7 and 9, LEADENHALL BUILDINGS, E.C.

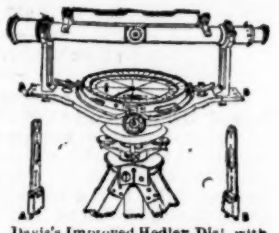
JOHN DAVIS AND SON,

ALL SAINTS WORKS, DERBY;

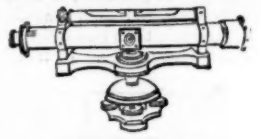
118, NEWGATE STREET, LONDON.



Transit Theodolite with Patent Hoffman Tripod Head, and Trough Compass.



Davis's Improved Hedley Dial, with Telescope and Sights Interchangeable and Patent Hoffman Tripod Head.



Dumpy Level with Hoffman Patent Tripod Head.

MINING, SURVEYING AND ENGINEERING INSTRUMENTS

THEODOLITES. LEVELS.

Davis's Improved Hedley Miners' Dials with HOFFMAN PATENT TRIPOD HEAD.

AND ALL DESCRIPTIONS OF MATHEMATICAL AND MINING SURVEYING INSTRUMENTS.

Revised Illustrated Catalogues Free to any Part of the World.

SECTION (A) MATHEMATICAL DEPARTMENT AND SAFETY LAMPS

SECTION (B) ELECTRICAL DEPARTMENT.

Gold Medal Awarded Mining Exhibition, 1890.

"THE ENGINEERING TELEGRAPH CODE USED."

HENDERSON'S RAPID TRAVERSER.

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

CONCENTRATION.

The Clarkson-Stanfield Concentrator (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS:

6, COLONIAL AVENUE, MINORIES, LONDON, E.

The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

N.B.—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

**** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Railings, December 3 (*London, N*).—For the supply and erection of wrought iron railings and galvanised wire fencing, for the vestry of St. Mary, Islington. Drawings, conditions, and specifications may be seen, and forms of tender, with quantities obtained, on application to the chief surveyor (Mr. J. Patten Barber) between 9 and 12 noon, on payment of £1 1s., which will be returned on the receipt of a *bona fide* tender, together with all the documents issued.

Colliery Stores, December 4 (*South Hetton, Sunderland*).—For next year's supply of iron castings, wire ropes, oils, and other colliery stores except timber, for the South Hetton Coal Company (Limited). Forms of tender and specification, with full conditions, may be obtained from Mr. J. R. Lumbert, South Hetton, Sunderland, and applicants for forms must state the kind of stores for which they wish to tender. Tenders to be addressed to the South Hetton Coal Company (Limited), South Hetton, Sunderland.

Culvert, December 4 (*Brentford*).—For constructing about 184 yards of 3 feet diameter brick culvert between the Enfield Road and Whitestile Road, Brentford, for the Brentford Local Board. Forms of tender, together with quantities and conditions, may be obtained, and specification and plans inspected, on application personally to Mr. Nowell Parr, C.E., surveyor, Clifden House, Boston Road, Brentford.

Wheels and Axles, December 4-11 (*India Office*).—The Secretary of State for India in Council is prepared to receive tenders to supply (1) wheels and axles (2) work-shop machines. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, E.C.

Coal, December 7 (*Bristol*).—For the supply of (a) pea nut coal washed (b) pea nut coal unwashed, to the electric lighting station, Temple Back, Bristol, for three or six months (at the option of the committee) from January 1, for the electrical committee. A copy of specification and forms of tender can be obtained from Mr. Frank W. Prosser, secretary, electricity department, Temple Back, Bristol.

Pipes, December 8 (*Leicester*).—For the supply and delivery of the necessary cast-iron pipes and connections, from 2 inches to 24 inches in diameter, required during 12 months ending December 31, 1895, for the gas committee. Specifications and form of tender to be obtained from Mr. Alfred Colson, M.I.C.E., engineer and manager, gas offices, Milstone Lane, Leicester.

Artesian Boring, December 14 (*Gainsborough*).—For making an artesian boring 1450 feet deep and from 30 inches to 15 inches in diameter, at the waterworks, Gainsborough, for the Gainsborough Local Board. Drawing and specification can be seen and further particulars obtained at the offices of Mr. Jabez Church, M.I.C.E., 58, Parliament Street, Westminster, S.W.

Reservoir, January 3 (*Bangor, Ireland*).—For the construction of a reservoir and other works connected therewith, including the inlet drain, pipe line to join present reservoir and town pipe, catchwater drain to Little Clandeboye, tanks, &c., for the Bangor Waterworks, in accordance with the drawings and specification prepared by Mr. Henry Chappell, engineer, which may be seen at the office of Mr. Francis Pollock, Town Clerk.

Shaft Sinking (*Fours ones, Northumberland*).—For the sinking of one or two shafts to the further depth of about 50 fathoms at Stonecroft by the drill process only, contractor finding drills, &c. Particulars may be had by applying by letter to Mr. Thos. Clarke, Stonecroft, Fourstones, R.S.O.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 37, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

21755 Thomas Llewellyn James, 2, Pembroke Terrace, Pontypool.—Suspenders for miners' safety lamps.—November 12.

21775 Alfred Muir, 17, St. Ann's Square, Manchester.—Improvements in machines for drilling boiler shells and the like.—November 12.

218 6 Ferdinand De Camp, 45, Holborn Viaduct, London.—Furnaces heated with coal dust.—November 13.

21979 Henry Blackwell, jun., Alfred Schimmel, and George Arthur Warburton, 55, Chancery Lane, London.—Improvements in the extraction of metals from their ores, and in means or apparatus employed therein.—November 14.

21991 Gustav Pickhardt, 1, Broad Street Buildings, Liverpool Street, London.—Improvements in connection with coal mines.—November 14.

22050 Robert Cooke, 1, Norfolk Terrace, Bath Road, Hounslow.—Automatic perfect method of exhausting steam, foul air, and gases.—November 15.

22061 James Cardwell Gunn and Robert McDougall, Woodcroft, Gateacre, Lancashire.—Improvements in the extraction of gold and other precious metals from their ores.—November 15.

22067 Thomas Hampton, Bank Buildings, George Street, Sheffield.—Improvements in the construction and working of moulds for casting compound ingots.—November 15.

22080 Hugh Watson and John Baird, 96, Buchanan Street, Glasgow.—A new or improved non conducting composition for covering steam boilers, pipes, and such like purposes.—November 15.

22086 William Price Abell, L'Union House, Essequebo, British Guiana.—Improvements in destructor furnaces.—November 15.

22116 Reginald Hadden, 13 Buckingham Street, Strand, London.—Improvements in milling machines.—November 15.

22193 Edward Hopkinson, 28, Southampton Buildings, Chancery Lane, London.—Improvements in steam engines.—November 16.

SPECIFICATIONS PUBLISHED.

23,553, Thompson, steam engines, 1893; 23,734, pressure and vacuum gauges, 1893; 24,761, Manchester Oxygen (Brin's patent) Co. and Jackson, utilising the pressure in gas cylinders, 1893; 24,897, Luard, lubricators for engine cylinders, 1893; 24,919, Meredith, water tube boilers, 1893; 25,038, Hall-Brown, steam engines, 1893; 25,042, Bosshardt, valves for steam engines, 1893.

The above specifications published may be had of Messrs. Rayner and Company, 37, Chancery Lane, London, at 10d. each including postage.

OUR INQUIRY COLUMN.

TO CORRESPONDENTS.

Correspondents will please take note that all communications will in future be answered in this column and not through the medium of the post. All questions and replies should be accompanied by the name and address of the writer.

REPLIES.

LLANGOLLEN.—The notes are called weekly. No doubt he assum that the prices in South Africa are the same as in London. At any rate, the information is up to date, but the correct London prices had better be taken from our Share List.

R. J. M.—We cannot advise you to speculate so rashly. Nothing comes of it. The shares you mention are of little value.

J. H.—Certainly. Consult a solicitor at once.

PERPLEXED.—We advise you to have nothing to do with it.

JACK.—We do not answer anonymous inquiries.

F. A. W.—We believe that the company is well managed. Hold the shares for a rise.

AFRICAN.—We think you would find them a good purchase for the moderate profit you name.

CRONY.—(1.) Leave these alone.—(2.) A fair speculative purchase.—(3 and 4.) Sell.—(5.) Hold.—(6.) Sell.—(7.) Hold for the present. If they rise then sell.

M. C. (Cardiff).—(1.) The nearest publication is "The Mining Manual," published annually by W. R. Skinner, 26, Nicholas-lane, E.C.—(2.) We know of no such list.—(3.) We have never heard of this company.

SCOTTISH MINERS' WAGES.—The Scotch coalmasters officially stated that not one firm had granted the men's demands for 6d. per day advance. The miners will probably return to the five days policy next week. The masters are considering the formation of a board of conciliation.

CHARTERS TOWERS (QUEENSLAND) GOLD MINING STATISTICS.—The London Chamber of Commerce now receives monthly from the Charters Towers Chamber of Commerce statements of (1) the crushings at the local gold mines; and (2) of the calls made and dividends declared during the month. These documents may be consulted by interested persons, on application and presentation of business card, at the Information Department of the London Chamber of Commerce, Botolph House, E.C. The September accounts arrived the 27th November.

THE anniversary of the occupation of Buluwayo was celebrated with great rejoicing at that town and other places in Matabeleland. A dinner was given by Pioneers in honour of the event, the foundation stone of a memorial hospital was laid, and athletic sports and races were held. Further reports of gold discoveries have reached Buluwayo. Some samples of quartz have been sent in from the Umseswa district, showing the richest specimens of very crystallised gold yet found in Africa. The reef from which the quartz was taken was evidently worked by the ancients, who constructed a wall of 65 feet level, along which these samples were found. Arrangements have been made to divide Matabeleland into five districts, each with a native commissioner, Mr. Colenbrander remaining at Buluwayo.

FURTHER EXPERIMENTS ON AMORPHOUS GOLD.*

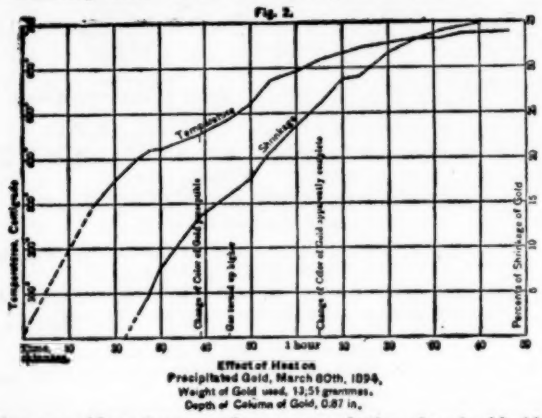
By HENRY LOUIS, F.G.S.

(Concluded from page 1287).

In carrying out my experiments I had the advantage of the help of Mr. R. Stansfield, Professor Roberts-Austen's assistant, who has had much experience with this pyrometer. On top of the gold in the crucible was placed a light rod, E, on the upper end of which rested the short arm of the lever, J, having its fulcrum at G. H is a small sliding counterpoise, by means of which the short end of the lever was kept steadily pressing upon the top of E. The extreme point of this lever, L, passed over a graduated scale, by means of which the contraction of the gold in the crucible could be measured.

Precipitated gold was first experimented on, the gold used being some that had been prepared for use as check pieces in the Mint assay office. It had been precipitated by means of sulphurous acid gas from a rather strong solution of auric chloride, and was in moderately fine powder, which showed, however, a strong tendency to cohere into lumps. Under the microscope it appeared to be somewhat crystalline, although no distinct structure could be made out, and had a well-marked metallic lustre.

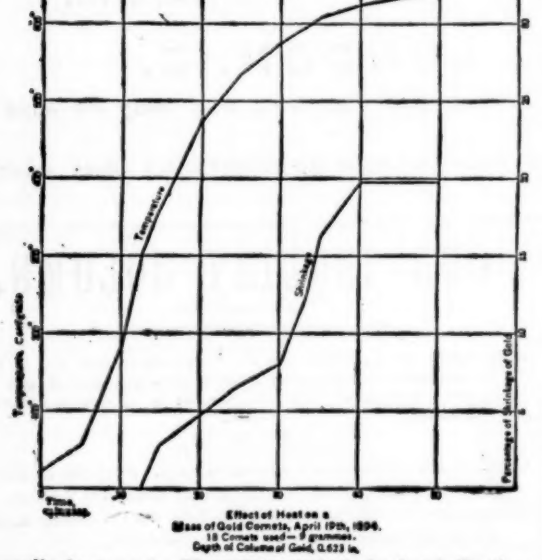
Fig. 2.



Effect of Heat on Precipitated Gold, March 30th, 1894. Weight of Gold used, 13.51 grammes. Depth of Column of Gold, 0.87 in.

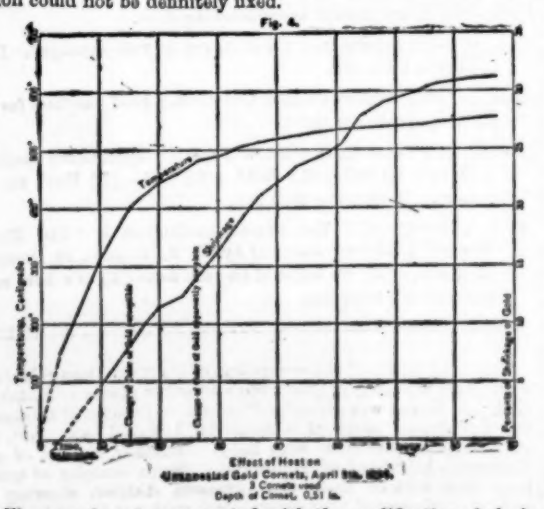
The effect of heat on this gold is shown graphically in Fig. 2, in which the curves both of rise in temperature and of shrinkage of volume are plotted. The abscissæ show time in minutes, the ordinary showing degrees centigrade and percentages of contraction of depth of column (linear contraction) respectively. It will be seen that there is no indication of recalescence, the temperature curve being, on the whole, fairly regular. The first indication of shrinkage was obtained at about 400° C., although it must have commenced some 20° lower, and it appeared to continue up to about 680° C. The change in bulk after that temperature being scarcely noticeable, the experiment was accordingly stopped. The points at which the first indication of change in colour and lustre were perceived, and at which the change appeared complete to the eye, are indicated on the diagram; but it must be remembered that this change is very gradual, and that the points of its commencement and completion could not be definitely fixed.

Fig. 3.



Effect of Heat on a Mass of Gold Cornets, April 19th, 1894. 18 Cornets used—9 grammes. Depth of Column of Gold, 0.623 in.

Fig. 4.



Effect of Heat on Unannealed Gold Cornets, April 9th, 1894. 3 Cornets used. Depth of Cornet, 0.51 in.

The experiment was repeated, with the modification of placing two crucibles in the heating chamber—one containing unannealed gold; and the other, gold already annealed, in order to see whether there was any difference in their respective rates of heating. No such difference could be noticed, and it seems certain that there is no recalescence with gold thus precipitated.

Figs. 3 and 4 exhibit the results of similar experiments upon gold cornets, thoroughly air dried but not annealed. In the former case (Fig. 3) the cornets were broken into small fragments, and then transferred to the crucible; in the latter case unbroken cornets were operated on. As will be seen, the results are somewhat similar to those obtained with the precipitated gold. Shrinkage was first distinctly noticed at 360° C. and 320° C. respectively, and appeared to be comparatively complete at 620° and 550° C. respectively. The latter experiment is especially interesting, because the decrease in volume which a cornet undergoes during annealing was directly measured thereby. The diminution in the depth of the cornet—that is to say, in the width of the fillet—was measured, and it was found that this dimension after heating was two-thirds of that of the unannealed cornet. On the assumption that the linear shrinkage of all three dimensions is equal, the volume of the annealed would be 0·3 of that of the unannealed cornet.

Differential experiments upon unannealed and annealed cornet gold, heated side by side for the purpose of comparison, were also made, and none of these showed the least indication of recalescence. It seems certain, therefore, that the change from dull-brown amorphous gold to the ordinary yellow lustrous variety is not accompanied by any absorption or evolution of heat; and in so far these experiments do not support my views on the allotropism of gold. It must, however, be admitted that they do not oppose those views.

It is evident that whatever the nature of the change may be it is a very gradual one, unmarked by any abrupt transition. At the same time it is possible that different results might be obtained by working upon the very finely divided gold precipitated by a dilute solution of ferrous sulphate from a dilute solution of auric chloride in the cold, and this experiment remains yet to be tried. Meanwhile the above experiments show conclusively within what ranges of temperature the annealing of gold cornets takes place.

* A paper delivered before the Bridgport meeting of the American Institute of Mining Engineers.

THE PROFITS OF GOLD MINING.

By Mr. NICOL BROWN, F.G.S.

(*Concluded from page* 1286).

Chemical Processes.

Every metal extracting works should have a good practical metallurgical chemist accustomed to work processes on the commercial scale. The limitation of amalgamation by mercury to free milling ores has caused gold miners as aforementioned to look out for other methods of extraction. Smelting could only be profitably resorted to when the ores were very rich. Many chemical processes were suggested and patented, but practically only two such systems have been successfully worked—viz., the chlorination process and the cyanide process. The ores and tailings that are not amenable to amalgamation may generally be classed as sulphides, or as containing sulphides, with which the gold is in so intimate connection that it is difficult to attack the gold without at the same time attacking the sulphides, and so using an excessive quantity of the chemicals.

Chlorination.

In the case of treating the ores by chlorination, it is usual in the first place to take out as much of the free gold as possible by amalgamation, and then to concentrate the tailings by some mechanical means, such as by Frue vanners, which sorts the rich ores from the poor by specific gravity, thus reducing the bulk and increasing the assay value from a low grade up to from 5 to 20 ounces gold per ton of concentrates. These concentrates are then calcined, which changes the sulphides of the base metals present to oxides, most of which latter have no affinity for chlorine. These calcined ores or concentrates are then put into revolving drums or barrels, and subjected to the action of chlorine gas. The chlorine dissolves the gold, and is washed out of the ore into tanks, where sulphate of iron is added, which precipitates the gold, and the supernatant liquor is drained off. The precipitate is collected at intervals and smelted into bars. The original and still popular chlorination method is the Plattner, in which the calcined ore is placed in vats with a perforated false bottom. The chlorine gas which is intended to act on the gold is introduced between the true and false bottoms, and penetrates upwards through the porous ore. Later modifications of this process are known as the Mear's, the Newbery-Vautin, and the Pollok, and consist in putting the ore in revolving drums, and allowing the chlorine to act under pressure. The pressure resulting from the generation of the gas itself is utilised in the Mear's process, air pressure in the Newbery-Vautin, and hydraulic pressure in the Pollok, to bring the chlorine into more intimate connection with the gold.

Generally speaking, the chlorination process is expensive, and can only be adopted when the ores are comparatively rich, and where fuel is sufficiently plentiful to allow of calcination being effected.

Cyanide Process.

This process is the most recent of all now in practical use, and considering the short time it has been in vogue, it has had an extraordinary influence on the gold industry in South Africa and other places. The process is applicable to most refractory ores and tailings, and one of its main advantages besides its economy is its simplicity, though where there is much copper the expense is considerable.

The ore is ground to a given fineness without any preliminary roasting, and put into large vats of a capacity, in some cases, up to 200 and 300 tons, and in these is treated with a weak solution of cyanide of potassium. This dissolves the gold. The auriferous liquor is then run through boxes, containing zinc in a fine state of division, and the gold is precipitated on the zinc from which it is washed off at intervals. The liquor is pumped back to the supply tank, brought up to its original strength, and used over again. This process is known as the MacArthur-Forrest. It was long known that the cyanides had an affinity for metallic gold, but as they had also an affinity for the baser metals, the extraction of gold from ores by this means was not considered feasible.

Mr. MacArthur and Dr. Forrest, however, discovered the interesting facts that cyanide had a strong selective affinity for gold, and by utilising this by the employment of weak solutions the economical recovery of gold from ores might be accomplished. The zinc used as the precipitant is prepared in the form of filaments by turning down the metal in a lathe. The turnings thus obtained are long fine shavings, and when pressed together form a spongy mass with a maximum of bright surface for a given weight. No attempt has been made in the above description to enter into detail, but simple to give a general outline of the process. The work is done by an expenditure of cyanide of potassium roughly equal to about 10 per cent. of the value of gold recovered. The cost of the cyanide is about 4s. per ton of ore treated, and the other costs are the labour of charging and discharging the tanks, and of pumping up the liquor to circulate it again, and may be taken as about 4s. per ton. By this process an additional 8 dwts. of the gold originally contained in the ore may be recovered, making in all a recovery of 90 per cent. of the contained gold.

At an expense of about 8s. per ton, therefore, a further value of £1 14s. worth of gold, or an additional profit over the old system of £1 6s. per ounce is obtained. The total profits under the new system of gold extraction amount to about £2 2s. 4d. per ounce of gold produced, exclusive of capital and general charges.

The process, as it at present stands, labours under a drawback, which will be cured in the near future. It will be observed that in the wet stamping process which has been described above, the water is used as a carrier of the small ore for the purpose of distributing it over the tables, and has the effect of separating the sandy tailings from the clayey, also of carrying the float gold away in the water, which is probably irrecoverably lost. This is an operation which, while suited to some extent for the amalgamation stage of many processes, is entirely unsuited for the MacArthur-Forrest process. The flocculent clayey tailings consolidate into hard and impervious masses, which defy percolation. If the natural sand had not been separated from the clay, the sandy grains would have kept open channels for the percolation of the cyanide liquor. It is, therefore, apparent that the process of separating the sand and clay into two varieties of tailings is a mistake if a percolation process is to follow. Yet it is by the ordinary unsuitable plant and methods that the great results of the cyanide process have been obtained. Most of the companies who have adopted the process had their mills already erected, and it was difficult to change the plant until it was worn out, and it had been proved that another method of crushing was better. A method of dry crushing the ore seems the best adapted for this process, and when this has been carried out practically, and the dry crushed ore treated directly with the cyanide, without the use of mercury plates, it is hoped another stage may be reached in the profitable saving of gold.

The MacArthur-Forrest process was first successfully put into practice in South Africa in 1891, and has since come into use in most gold producing countries. Its most extensive use is still, however, in South Africa, where about 30 per cent. of the total gold output is the result of the cyanide process.

The actual out-turn of bullion by the process since its commencement in South Africa is as follows:—

1891 (3 months)	17,332	ounces.
1892 (12 months)	178,108	"
1893 (12 months)	350,213	"
1894 (7 months)	383,960	"

The Assay Office.

This office should be under the direct control of the general manager. An account should be kept showing the assay value of the total fine gold contained in the ore before it is milled, and of the fine gold produced therefrom. The difference unaccounted for should show the gold unrecovered in working the process—*i.e.*, the gold left after treatment in the spent ore, usually called the tailings of sand and clay.

When the amalgam of gold and mercury is taken from the copper plates, it is brought to the assay office and retorted. The mercury is distilled off and the gold is left in the resulting bullion. This is cast into ingots of about 250 ounces weight, and sent after being refined to the Mint.

So also the precipitated gold from the cyanide solution is scraped off the zinc, fused and cast into bullion; its ultimate destination being also the Mint. The bars are assayed and are reported as being so many parts fine, 1000 parts representing absolutely fine gold. The bars from amalgamated gold usually run about 800 to 900 parts fine, according to the ore treated. The remaining parts of the 1000 may consist of silver, copper, or a little iron. An appreciable quantity of silver in the bullion is paid for by the buyers. Nothing is allowed for the other metals. The bars from cyanide gold are usually low in value, running about 600 parts of fine gold in a thousand. The impurity is principally zinc or lead from the extracting boxes. The gold carried in the bullion when sold in London is at a fixed value. The value of standard gold (22 carat) is fixed at £3 17s. 9d. per ounce, and this has been nearly its value since the beginning of the 18th century, and before then the value was less. The value of pure gold (24 carat) is, therefore, £4 4s. 9½d. per ounce. A mining company possessing ore bodies which contains 1 ounce of pure gold to the ton, and from which they can obtain, as has been shown already, about 90 per cent. or 18 dwts. of pure gold, will have in hand £3 16s. 4d. wherewith to pay all expenses from the auriferous ore to the ingot of gold.

The certain market at a fixed rate for the product of gold mining is an advantage which other metallurgical industries have not, and removes all fear of falling prices, which are the constant disappointment of all other industries.

The cost of producing the world's supply of other metals approaches the market value of these metals, and leaves little or no margin of profit to the producer. Year by year the prices sink lower and lower, only a few producers who can improve their processes and reduce costs, managing to make any profit.

If some of the energy, capability, and capital devoted to other metallurgical industries were devoted to the production of gold, real results would follow. In those industries, so keen has been the competition that every item of cost is foreseen and allowed for, and this is all we ask should be done for the gold mining industry.

When the fair offers of profit are considered which Nature and science hold out to the industrious and intelligent gold miner, the question may be put, Will there not some day be a deluge of gold? Such questions arose when the Australian and Californian gold fields were producing the large quantities of nuggets, and the output of South Africa suggests the same question to-day. It is not probable that gold will be greatly depreciated in value relatively to silver as it is restricted in its native distribution, and, moreover, it is so uniformly distributed in very small particles throughout the rocks that great industry is required to gather it into a compact form.

Murchison points out in connection with this that argentiferous lead expands largely downwards into the bowels of the rocks, and suggests that it must yield enormous quantities of silver for ages to come. He then picks out the aphorism in the Book of Job, in which the natural truth is clearly expressed:—

> "Surely there is a vein for the silver
> . . . The earth hath dust of gold."

UNION STEAMSHIP COMPANY.—The Union Steamship Company's twin screw Royal Mail steamer *Norman*, which left Southampton on November 10 with the Cape of Good Hope and Natal mails, arrived at Cape Town, *via* Madeira, at 5·10 p.m. on Monday, making the passage in 15 days 19 hours net steaming time, the average speed being 15·9 knots per hour.

AUSTRALIAN GOLD FIELDS.—A MONTHLY RECORD.—We have o acknowledge the November number of the publication compiled and published by Mr. F. G. McCutcheon, of 5, Lothbury, E.C. It is crammed full of useful information, and is a distinct improvement upon the first two numbers. At the present moment, of course, it is especially valuable.

Mr. Henry J. Dowden, surveyor and land agent, has removed his offices from No. 314, Regent-street, W., to No. 8, Craig's-court Charing-cross, S.W.

BRITISH SOUTH AFRICA COMPANY.—Reuter's Agency learns that the negotiations which have been proceeding for some time past between the Foreign Office and the British South Africa Company with reference to the Company's territories north of the Zambesi have now been concluded. It has been a ranged that the Nyassaland Protectorate shall remain directly under the administration of Mr. H. H. Johnston, Her Majesty's Commissioner for British Central Africa, while the remainder of the British sphere north of the Zambesi will be directly administered by the British South Africa Company. Dr. Jameson will proceed early next year by the East Coast route to visit these territories on behalf of the company. Mr. Rhodes, having concluded the company's negotiations with the Foreign Office with regard to these matters, will now devote his attention to the questions arising in reference to the territories south of the Zambesi.

MESSRS. DONALD CURRIE AND COMPANY'S steamer *Hawarden Castle* has left Cape Town for Europe with gold to the value of £133,000.

THE PRACTICAL OPERATION OF THE CYANIDE PROCESS ON THE RAND.

By M. EISSLER.

(*Concluded from page* 1292.)

Synopsis of the Process.

It is only when free milling ore tailings are taken directly from the battery to the cyanide works that they do not contain any decomposition products, and are in a proper condition for cyanide treatment, the old tailings heaps having undergone some change in their chemical composition from exposure to the atmosphere.

The summary of the treatment consists in:—

1st. Passing an alkaline solution or caustic wash through the ore to a point of saturation, as the tailings always contain a certain amount of organic matter, acid salts, &c. By running on this alkaline solution a considerable saving is effected in the consumption of cyanide of potassium, and the tailings get the advantage afterwards of the full strength of the strong solution. Strength of this first alkaline solution may be 0·15 per cent. K Cy, and may contain 4 ounces of caustic soda per ton of solution.

2nd. The Strong Cyanide Solution.—This solution varies in strength from 0·3 to 0·5 per cent. in K Cy to suit the richness and nature of the tailings under treatment, and the proportion of this solution to be run on should not be less than one-third the weight of the tailings in the vats. When this solution is run on, though the first solution has drained out, the tailings still contain a considerable quantity of the former solution. This should be displaced by allowing the second or strong solution to drain down immediately the vats are filled with it for, say, about two hours (according to the capacity of the vats and the nature of the tailings), and then sufficient strong solution should be run on to make up the required proportional amount.

The vat is now full of strong solution, which in some cases may be leached out immediately, though generally it is advisable to leave it in contact with the mass for a short period, say, three hours, to give the solution time to penetrate any lumps.

When this solution is leached out, or only a very small stream is coming away, it should be allowed to continue draining about four hours longer; during these last four hours air is taking the place of the solution, and the gold is in contact with a strong solution of K Cy in presence of oxygen, which produces a more rapid and effectual dissolving of the gold.

3rd. The Weak Solution.—After the strong solution has been run on, we may safely assume that most of the gold is now in solution, and the object of the third operation is to wash out the dissolved gold. Therefore, after the strong solution has been drained out, sufficient weak solution, containing 0·15 per cent. K Cy, is run on till the total quantity of solution and washes represent 75 to 80 per cent. of the weight of the ore.

4th. The Water Wash.—After the weak solution a water wash is applied, and the quantity so applied is not less than 7 per cent. of the weight of the ore, and more is necessary.

The Precipitation.

The cyanide solutions containing gold as they flow from the leaching vats are passed through one or more precipitation boxes. On the zinc shavings the gold is precipitated, and the quantity of solution flowing through each box must be properly regulated.

It is essential for the man on the shift to know the strength of the solution at the different stages of leaching; first, that he may know into which one of the precipitation boxes the solution is to be passed, and then he must ascertain the strength of the solution leaving the precipitation boxes, in order to let them flow into their respective storage tanks.

The gold in solution increases and decreases in quantity much in the same way and same time as the cyanide in solution increases or decreases. In the precipitation of the gold in the boxes it is important to keep a sufficient stock of zinc shavings in each compartment, and so to regulate the flow of solutions as not to incur danger of fine gold precipitate being carried away. The zinc shavings are prepared by turning down zinc discs on a lathe, with an ordinary carpenter's mortice chisel.

The zinc shavings in the boxes may require replenishing every day to replace amount consumed, or may run a week at a time without requiring replenishing.

Having by passage of the solutions through the zinc shavings re-converted the gold into the metallic form, the process of collecting the gold and putting it into ingot is described in the cleaning up.

The precipitation boxes are set at a slight grade as shown in the plan, while the precipitation itself is influenced by various chemical and other considerations.

Summary of Time taken by the above Treatment on Clean Tailings.

This is the method of treatment at the Rand Central Ore Reduction Company's Works, and the figures have been kindly supplied to me by the working chemist, Mr. Blomfield.

1st. Alkaline Wash.—Filling with 0·16 per cent. K Cy + 4 ounces caustic soda per ton solution. Time, 2 hours:—		
Leaching..	3	„
2nd. Strong Solution:—		
Filling with 0·35 K Cy solution and contact.	5	„
Leaching..	8	„
Leaching dry	4	„
3rd. Weak Solution:—		
Four washes at one hour each.	4	„
Four leachings at four hours each	16	„
4th. Water Wash:—		
Filling	1	„
Leaching..	7	„
Total time	50	„

This treatment was applied to 7½ dwts. tailings, residues being from ·15 grains to 1 dwt. per ton, three quarters of a pound of cyanide being the consumption per ton of ore.

On these fields it has been found that 12 to 24 hours' contact with the strong solution is sufficient to effect a solution of the gold in the tailings. The subsequent treatment with weak solution has the object to displace the gold solution and to wash out the already dissolved gold. The displacing of the weak solution by a final water wash tends to reduce the loss of dissolved gold to a minimum, as it displaces the weak gold solution, and the gold which is left in the tailings is generally that still retained in the coarser quartz particles from which it has not been liberated by stamping, and whatever gold has remained undissolved in the iron pyrites.

The time of treatment of each vat varies and takes from 50 to 140 hours according to circumstances and size of filter vat.

The Clean Up.

In making the clean up, the tray holding the zinc shavings is lifted out from the last compartment, pulsated up and down in the solution, so that the fine particles of slime and zinc fall through the sieve and settle in the bottom of the box. Before starting this operation it is advisable to run into the box a sufficient amount of clean water to remove the cyanide solution, as it is injurious to the workmen. The Kaffirs put their arms and hands into it without being affected. The zinc shavings are taken out of the tray, which is placed on a rack above the box, so as to allow the solution to drain back into the box. They are also being rubbed in the water to remove, as much as possible, all gold adhering to them.

The tray is turned over and brushed down so as to remove any gold adhering to it. The zinc shavings get very hot on account of oxidation, and it will be noticed that steam arises from them, therefore they should be exposed as little as possible to the air. The solution or water in the zinc boxes is pumped into settling tanks, where it is allowed to stand for two weeks, so as to give the extremely fine particles of gold held in suspension time to settle. In pumping out the precipitation boxes great care is taken not to disturb the gold zinc slimes in the bottom; the water is pumped out to within 2 inches of the slimes, and the india rubber suction hose moved into the second compartment, and so on.

The slimes are pushed back with a scoop to one corner, and the supernatant liquor allowed to stand for a while, after which it is pumped into the settling tanks. The slimes are now scooped into enamelled iron buckets and discharged on to a fine, say, 900 mesh sieve, and washed and rubbed into the gold clean up tank.

After the water is settled in the clean up tank it is syphoned or pumped off, and the precipitate called gold slimes are drawn off through the plug holes on to a calico or linen filter, or into a filter press.

The zinc shavings, some of which have quite a brown coating of gold, which cannot be removed even by rubbing, are again returned to the precipitation boxes, and fresh zinc put on the top. The gold which sticks to the zinc will be recovered in the next clean up. After the gold slimes are sufficiently dry to be handled with a scoop they are dried on an iron plate or in iron pots, and are then ready for roasting and smelting.

Mr. Feldtmann says: "A good method of roasting has been found in the addition of a little nitre, say about 3 to 10 per cent., to the precipitate. It is best applied as a strong solution before drying the precipitate, so that it gets equally mixed with the whole mass. In the subsequent roasting the nitre not only assists by yielding up oxygen to the zinc, but to some extent also appears to flux the zinc oxide, forming zincate of potash, which is not so readily reduced as zinc oxide. In case the precipitate is very sandy—owing to tailings coming through the filters—nitre roasting is not so successful, as it tends to cake. By the addition of nitre the tendency of the precipitate to dust on stirring up in the roasting furnace is minimised, the amount of flux required in smelting is reduced, and the resulting bullion is better. In roasting the precipitate care should be taken not to raise the temperature much above a dull red heat (to avoid partially fusing it to a pasty mass), and not to stir too violently, especially just at the commencement of the roast, or dusting and consequent loss is the result.

The clean up is generally made once a month.

Smelting of the Slimes.

The precipitate having been sufficiently roasted, the next step is to mix it with suitable quantities of flux, and smelt in plumbago pots.

The fluxes commonly used are bi-carbonate of soda, borax, and sand, and the smelting is done in plumbago crucibles.

After the charges in the pots are run down, more of the mixture may be added from time to time, and everything being fused until perfectly liquid, the contents of the pots are poured into moulds.

The fineness of the bullion resulting from the cyanide process ranges from 600 to 800.

Besides gold, silver, and zinc, there is some lead in the ingots, as the zinc employed contains a certain per cent. of this metal, and also carbon, which also is found in the ingots.

The Treatment of Acid Ores or Tailings.

By acid taillings should be understood those tailings which contain the decomposition products of the iron pyrites. These products consist chiefly of free sulphuric acid, soluble metallic salts, such as proto-sulphate or per-sulphate of iron, or insoluble basic iron salts. All these substances are destructive to cyanide, forming with it compounds useless in the extraction of gold. In order to overcome these difficulties caustic lime in a powdered form is generally added. With very acid tailings, as much as 2½ lb. per ton is required. With fresh tailings ½ lb. of lime per ton of tailings is sufficient. In some works the requisite quantity of lime is added to each car load of tailings as the same is hauled up to the leaching tanks. In other works 6 or 10 tons of tailings are dumped into the leaching tanks, and the same levelled off and the lime sprinkled over it. The practice of putting all the lime on top of the tailings after the vat is filled cannot be recommended, as the lime forms a pasty mass and the alkalinity does not penetrate through the ore.

Concentration and Treatment of Concentrates.

The question if it pays to concentrate the tailings before sending them to the cyanide works has not been definitely settled yet on the Rand gold fields.

The only mines where concentration previous to cyaniding has been carried out for any length of time are the Crown Reef, the Langlaagte Estate, and Langlaagte Block B. Mines; as here, the concentrates are treated separately with cyanide. At these mines I am informed that it pays to follow this method.

At the Crown Reef Mine they collect by means of three Spitzlutten about 600 tons of concentrates a month, out of 17,000 tons of ore.

A 1½ inch pipe leads the heavy sands and pyrites, which assay 23 dwts. per ton, to settling tanks 30 feet in diameter and 6 feet high. The main object of this rough concentration is to eliminate the coarse sands, so as to submit them to a prolonged treatment with cyanide. The cost of this system of concentration is only £25 per month, mainly for pumping the water, which is needed for the hydraulic classifier, as they are worked by an ascending stream of water. The concentrates, or rather the classified material, being collected in wooden vats, is constantly under water, and does not get oxidised. The material collected is not very coarse, as in the battery they use 900 mesh screens.

From the storage tanks the material is taken to the leaching tanks, and submitted to the action of the solutions for 16 to 18 days.

The strength of the soiutions employed are 0·25 per cent., 0·1 per cent., and 0·05 per cent.; about 1 lb. of lime is added to each ton of concentrates.

Strong solution is run on for four days or more, till it leaves the tank of the same strength at which it entered.

The residues from these concentrates assay 1½ dwt., giving an extraction of 94 per cent. The consumption of cyanide with these concentrates is about 1½ lb. per ton. The weaker solutions are constantly circulated through the tanks, till a high point of extraction is reached.

The Witwatersrand ores carry from 3 to 4 per cent. of pyrites.

I believe the time of treatment could be lessened by employing a somewhat stronger solution.

At the Robinson Mine 3 per cent. of the weight of the ore is caught on Frue vanners as concentrates assaying 4 to 5 ounces. Extensive experiments have been made with cyanide, but the results were not satisfactory, and consequently the concentrates are treated at this mine by chlorination, at a cost of £3 per ton.

Adverse conditions which affect the Cyanide Treatment.

1. The action of impurities and base metals in ores, which prevent the solution of the gold, and affect the decomposition of cyanide. This will require a complete study by analysis of the components parts of the ore.

2. It is necessary to examine the condition of gold in residual tailings or concentrates from the cyanide treatment.

a. In this connection it has to be ascertained if a certain percentage of dissolved gold (the auro potassic cyanide) has not been completely washed out.

b. Also if a certain per cent. of gold is still present in coarse particles, capable of being amalgamated.

c. Per cent. of gold encased in quartz or pyrites to which the solution has not had access.

d. Occurrence of gold in lumps of slime after treatment by cyanide, the gold is supposed to be precipitated by the action of iron salts, producing a ferrous-ferricyanide from auro potassic cyanide and free cyanide, thus explaining some low extractions from weathered ore and concentrates. These are the adverse conditions laid down by Mr. Bettel.

The presence of copper combinations are very detrimental to the success of the MacArthur-Forrest process. The ores of the Black Reef series, near Johannesburg, carry a small quantity of copper pyrites, and consequently the gold extraction by cyanide does not give as good results as on the Main Reef series.

The Practical Results.

Before we begin the treatment of the tailings, we meet with an acknowledged loss of 25 to 30 per cent. of the gold which goes into the slimes.

To illustrate the question of extraction by an example, I will suppose that we are dealing with a Rand mine whose ores contain an average assay value of 16 dwts. per ton. I am safe in saying that the average extraction in the battery by plate amalgamation ranges from 60 to 70 per cent., especially from the pyritic ores, and assuming that the battery recovers 10 dwts. per ton, or about 63 per cent., this would leave 6 dwts. in the tailings. Assuming now that 1000 tons tailings at 6 dwts. go to the cyanide works containing 6000 dwts., 30 per cent. of these, or 300 tons at 6 dwts., go to the slime pit containing 1800 dwts., leaving 700 tons of tailings at 6 dwts., which go to the leaching vats containing 4200 dwts. Of these 4200 dwts 70 per cent. is recovered by cyanide equal to 2940 dwts., so that the amount recovered from the original 1000 tons of tailings represents 50 per cent. in round figures—3 dwts. out of the 6 dwts. Add to this the 10 dwts. won on the plates makes 13 dwts., or a total recovery of 82 per cent. of the gold contained in the ore. Exact figures as to the actual extraction of the gold from the various establishments are not easily obtainable, but from the information I have gathered I should consider that 85 per cent. would be the average.

Cost of Treatment

This necessarily varies at every work, and mainly depends—

1. On the size of the plant.

2. On the facilities for handling the tailings in charging and discharging.

3. The principal item being the consumption of cyanide.

The consumption of cyanide, I should judge, varies from ¾ to 1¼ lb. per ton of tailings treated. The commercial article as sold in Johannesburg costs 2s. per lb.

The consumption of zinc is about 0·4 to ½ lb. per ton of ore, and costs 4½d. per lb. in Johannesburg. At the Kleinfontein Works the consumption of cyanide is only ¼ lb. per ton. The consumption depends greatly on the washing, and the alkaline wash destroys organic matter. The cost in large works treating above 10,000 tons would be 4s. per ton.

In works treating 5000 to 7000 tons the cost would be 6s. to 7s.

In works treating 3000 to 4000 tons the cost would be 7s. to 8s.

In smaller establishments the cost may even reach 10s.

The cost of zinc precipitation can be estimated at from 1½d. to 3d. per ton.

Cost of Plant.

A plant to treat	3,000	tons monthly would	cost £	5,000
„	5,000	„	„	7,500
„	7,000	„	„	10,000
„	16,000	„	„	18,000

The Siemens-Halske Process.

(For the Electric Precipitation of Gold from Cyanide Solutions.)

This process was in practical operation at the Worcester Mine for several months, where I have had the opportunity of examining it. At the Meyer and Charlton Mine and at the Metropolitan the same will supersede the zinc precipitation method very shortly.

How the Process was Discovered.

In 1887 Dr. Siemens, the eminent electrician of Berlin, found that the gold anodes used in electro-plating at his works lost weight when standing in the cyanide liquor without any electric current passing through the bath. This fact, of course, backed up the statements made by chemical authorities—that gold is soluble in cyanides, and induced him to try the use of cyanide solutions for the extraction of gold from ores.

He introduced the process in Europe, Asia, and America, and during the year 1894 erected a plant capable of dealing with 3000 tons of tailings per month at Worcester Mine, near Johannesburg, Transvaal.

Why Dr. Siemens adopted the Electrical Method.—He found that the zinc method as introduced by MacArthur-Forrest only gave good results with strong solutions, while the electric precipitation was equally effective with either strong or weak solutions, and its efficiency was not lessened by the presence of caustic soda.

The Action of the Electric Current on the Gold Solution.—The electric current decomposes a solution of metallic salt, the metal being deposited on the negative pole, while the metalloid is liberated at the positive pole of the electrolytic cell. In a fixed time, a given electric current will deposit a certain quantity of metal, which quantity varies for different metals in direct proportion to their electro-chemical equivalents. This law holds good only for solutions strong in metal, but with very dilute solutions, as in use in the cyanide process; the current does not find sufficient of the metallic compound present at the electrodes, and consequently decomposition of water also takes place. For this reason, to make the efficiency of the precipitation as great as possible, constant diffusion of the solution is requisite.

In order, therefore, to create an artificial diffusion, a mechanical movement of the solution is important, and the most economical and convenient way of effecting this is to allow a slow but steady flow through the precipitation boxes. But it is still more important to give a very large surface to the electrodes. In fact, a better effect is obtained by doubling the number of plates than by increasing the current tenfold.

Conditions which the Metal Cathode must fulfil.

1. The precipitated gold must adhere to it.

2. It must be capable of being rolled out into very thin sheets to avoid unnecessary expense.

3. It must be easy to recover the gold from it.

4. It must not be more electro-positive that the anode, in order to prevent return currents being generated when the depositing current is stopped.

The most suitable metal for the purpose is lead, rolled out in very thin sheets, which is therefore used in the Siemens-Halske process, and which meets all the requirements of the case.

The lead sheets are fastened in light wooden frames; there are three sheets of lead in each frame 2 feet × 3 feet, giving each frame a surface of 18 feet, and 87 frames which are in each precipitating box will expose a surface of 1566 square feet. Each frame holding three lead sheets at 1 lb. weight each makes 261 lbs. of lead in each box.

The Anode.—No less important is the question of anodes. Iron anodes form Prussian blue by the reaction between oxide of iron and ferro-cyanide. In consequence of this reaction, the amount of ferro-cyanide in the cyanide solution does not increase.

From the Prussian blue, the cyanide can be recovered by dissolving it in caustic soda, then evaporating the solution, and finally smelting with potassium carbonate.

This last process has been carried out only on a small scale—about 50 lbs. at a time—but a nice clean cyanide of potassium is obtained. In the treatment of tailings this regeneration of cyanide is not of great importance, but with concentrates, which decomposes the solution with formation of ferro-cyanide, it will effect a considerable economy.

Electric Current required for Precipitation.

In order to precipitate the gold from cyanide solutions only a very weak current is required—that is to say, a density of about 0·06 ampére per square foot. With cathodes about 1½ inches apart, 7 volts is sufficient.

The advantages gained by using such a weak current are—

1. The gold is deposited hard on the plate.

2. The iron anodes are preserved for a long time, as their waste is in proportion to the current strength. In a plant treating 3000 tons per month, 1080 lbs. of iron are destroyed in that period.

3. Little power is required. 746 Watts equal 1 horse power. A 3000 ton plant requires 2400 Watts, equal, theoretically, to 3¼ horse power, and actually requiring about 5 indicated horse power.

Advantages of Electrical Precipitation.

The most important feature of electrical precipitation is that it operates on the solution quite independently of the amount of cyanide or caustic soda it contains.

A solution containing 0·03 per cent. of cyanide will dissolve gold just as effectively as a solution containing 3 per cent., provided a longer time is allowed for treatment.

It is my belief that the application of the extreme weak solutions, such as are utilised in this process, will lead to important results in the treatment of the so-called rebellious ores, and that there is here a wide field open for investigation and research.

The vats hold 135 tons, and it takes five hours to fill them.

The tailings first get an alkaline wash of 10 tons.

After this wash 70 tons of strong solution of 0·05 to 0·08 per cent. is pumped on.

After this 20 tons of weak solution is pumped on of 0·01 per cent. strength.

Total quantity of solution used 100 tons, and it takes five days to leach, filter, and discharge each vat.

Practical Working Results.

At the Worcester Works there are in use five leaching vats of 20 feet diameter with 12-foot staves, each holding 3700 cubic feet, 135 tons. One tank is discharged and filled every day. The strong solution used contains from 0·05 to 0·08 per cent. cyanide, and the weak washes 0·01 per cent. The actual extraction of fine gold has averaged 70 per cent., while the consumption of cyanide has been ½ lb. per ton of tailings treated.

The precipitation plant consists of four boxes 20 feet by 8 feet wide and 4 feet deep. Copper wires are fixed along the top of the sides of the boxes, and convey the current from the dynamo to the electrodes. The anodes are iron plates 7 feet long, 3 feet wide, ¼ inch thick. They stand on wooden strips, placed on the bottom of the box, and are kept in vertical position by wooden strips, fixed to its sides. In order to effect the circulation of the solution in passing through the box, some of the iron sheets rest right down on the bottom, while others are raised about 1 inch above the level of the solution, thus forming a series of compartments similar to those of a zinc precipitating box, the difference being that the solution passes alternately up and down through successive compartments.

The sheets are covered with canvas to prevent short circuit. The lead sheets are stretched between two iron wires, fixed in a light wooden frame, which is then suspended between the iron plates. The boxes are kept locked, being opened once a month for the purpose of a "clean up," which is carried out in the following manner:—The frames carrying the lead cathodes are taken out one at a time. The lead is removed and replaced by a fresh sheet, and the frame returned to the box, the whole operation taking but a few minutes for each frame. By this means the ordinary working is not interrupted at all, and the cleaning out of the boxes, which is necessary in the zinc boxes, is only required at long intervals.

The lead which contains from 2 to 12 per cent. of gold is then smelted into bars and cupelled.

The gold is deposited on the lead sheets as a thin bright yellow film which adheres firmly to the lead. The process of cupellation is too well known to need description.

The consumption of lead is 750 lbs. per month, equal to 1¼d. per ton of tailings. The working expenses are at the Worcester Works, treating 3000 tons per month as follows:—

	Monthly.	Per ton.
Filling and discharging leaching vats..	£125 ..	10d.
Cyanide	75 ..	6d.
Lime	15 ..	1·2d.
Caustic soda	6 ..	0·5d.
Lead	14 ..	1·1d.
Iron	28 ..	2·2d.
White labour	65 ..	5·2d.
Native wages and food	20 ..	1·9d.
Coal	57 ..	4·6d.
Stores and general charges	41 ..	3·2d.
Total	£450 or	3s.

At a great many works, where correct sampling and assaying is carried out, the results—the gold won—agrees pretty closely with the assay results. At the Worcesters the following were the results for the month of August, 1894:—

	Oz.	Dwt.	Gr.	
1350 tons tailings taken from settling vats containing	443	1	0	gold.
1750 tons tailings taken from upper tailing dam containing	498	15	12	"
3100 tons tailings which, according to assay, contain	941	16	12	"
3100 tons residues which, according to assay, contain	239	7	12	"
Balance, showing the theoretical output, or 74·6 per cent.	702	9	0	
Actual gold won, or 74·1 per cent.	697	15	15	

The tailings which were treated assayed from 6 to 8 dwts. The tailings or residues after treatment assayed from 1 to 2 dwts. The solutions which leave the precipitation boxes still contain some gold, and the analysis in this case showed that the strong solution contained 4 dwts. 8 grains per ton of solution. The weak solution contained only 10 grains.

On an average in these works the strong solutions carry from 4 to 5 dwts., and the weak from 0 to 1 dwt.

In taking samples of the residues I would draw attention to the fact that the portion of the residues in which the largest proportion of unextracted gold is contained is near the bottom of the filter vat, say the last 12 to 15 inches.

The best way to sample is to take a sampling iron and probe every car load as it goes to the works, and do the same with every car as it leaves the works with the worked residues.

MEETINGS OF MINING COMPANIES.

THE HAMPTON LANDS AND RAILWAY SYNDICATE, LIMITED.

A dividend of 50 per cent.—The company's assets

THE ordinary general meeting of the Hampton Lands and Railway Syndicate (Limited) was held on Monday, at Winchester House, the chair being occupied by Lord ARTHUR BUTLER.

The SECRETARY (Mr. Alfred Walmsley) read the notice convening the meeting.

The CHAIRMAN said—Gentlemen, when we met in November last year we placed before you the proposals of the board to transfer to a larger company, with adequate working capital, the whole of the landed estates, freehold and leasehold, held by this syndicate, and the terms and conditions upon which a provisional contract might be entered upon were then fully explained to you. Those proposals, as you will recollect, were found to be acceptable, and a contract granting an option of purchase upon an agreed basis for a consideration of £3000 was ultimately drawn up and signed, of which you were made acquainted in due course. The outcome of this contract is the Hampton Plains Estate (Limited), a company issued about six weeks ago, and with a success surpassing that of any similar issue—at all events, as far as Australia is concerned—for many years. The terms we secured under the contract are practically set out in the balance sheet now before you, and each shareholder can see for himself the return which he is likely to receive on his investment. I will, however, endeavour to explain the general position the syndicate is placed in by the success of our negotiations. Firstly, I should state that the transfer of the property from the syndicate to the Hampton Plains Estate (Limited) has now been completed. The debenture debt has been extinguished by exchanging syndicate debentures for debentures of the Hampton Plains Estate Company. The cash received and to be received is £60,000. Out of the cash received we propose the payment of an immediate dividend of 10s. per share, free of income tax, absorbing £32,000. The remainder of the cash (£28,000) we do not at present propose to distribute, and for this reason—As the prospects of the Hampton Plains issue promised to be such as would secure success, we considered it advisable to apply for 30,000 shares in the new company. We did apply for these shares and they were allotted, and the amount paid upon them is 4s. per share, or £6000. Seeing that we hold a confident opinion as to the successful future of the Plains Company, it is not our intention to sell these shares at present, but to hold them as an investment; and as the holding may involve payment of calls it will be necessary to keep in hand a sufficient sum wherewith to pay all the calls up to £1 per share, requiring £24,000, though of course we may sell them as partly paid. When they are realised either as fully or partly paid we shall distribute the cash proceeds of the same. The 100,000 fully paid shares, part of 110,551 which appear at the top of the balance sheet on the credit side—by the conditions of the contract we shall not be at liberty to distribute until after the expiration of 12 months. During this period they are not to be transferred, as stated in the report. This provision, however, will be of only slight disadvantage seeing that the syndicate will not be wound up until the end of that period, during which time your syndicate shares (which carry all rights) will be negotiable. I have now explained the figures relating to the contract and the proposals we make for dealing with them, but there are one or two other points of importance upon which you may desire to have information. As stated in the report, advantage has been taken of Mr. Lepage's presence in Western Australia to look out for one or two good mining properties. These, we believe, he has under option. In order to more conveniently deal with such, if secured, we have established the Swan Syndicate to adopt any contracts, either of option or purchase, which Mr. Lepage, who is now on his way home, may recommend our entering into. The registered capital of the Swan Syndicate is £21,000—viz., 20,000 in ordinary shares and 1100 in deferred; of these have been issued, or agreed to be issued, 11,000 ordinary and the 1100 deferred, nearly half of which issued capital (5000 ordinary and 500 deferred) is held by the Hampton Lands and Railway Syndicate. Considerable benefit may accrue to you also from this investment. The other investment is that of the 500 fully-paid shares of £1 each in the Western Australian Gold Fields (Limited), which you are probably aware stand at about £3 in the market. I might now, with your permission, deal with a few other matters where no figures are involved, and which may, therefore, be less irksome for you to follow, though I think our figures are not such as can in any way be considered unpalatable. From time to time we have communicated information relating to the lands to the Press. To summarise this information in a speech would take a long time, but I may mention a few points, and give you some additional particulars bearing upon your interests as large investors in the Hampton Plains Company. For some time past considerable expenditure has been devoted to boring for water and tank making for storage of surface water. The latest information under this head is the discovery of an abundant supply of fresh water at a depth of 150 feet, believed to be about 3¾ miles north-east of the Townside (Coolgardie East) on selection 59. This discovery is of such importance that the manager (Mr. Anderson) recommended in his cable (when announcing it) the sinking of a shaft, and instructions were at once cabled to sink the shaft. On Lake Brown and on the cane grass flat north-east corner of selection 59, condensers are at work turning out from 100 to 350 gallons per 24 hours. So considerable is the yield, so great the demand, that by recent advices we learn that the plant is being doubled and larger wells made, which should mean a yield of water double the previous supply. In addition, further condensers have been asked for from London, but without these, and relying only upon the additional plant obtainable on the spot now being erected, Mr. Anderson expects a yield of from 400 to 600 gallons a day for sale alone, exclusive of the yield from the new bore. Besides this supply from our condensers, rights to condense water have been let to other parties—five, I think, in number—at a rental of £10 per month, for rights over a small area, and also to pay a further sum of 10s. for each 200 gallon boiler used. One man is preparing to erect 13 boilers. Other rights have also been let on varying terms to eight parties in all, and a revenue from this source is already being derived. Turning to discoveries of reefs, their development and further prospecting, our latest advices are to this effect:—In addition to the large auriferous areas pegged out some time ago, we have information of the discovery of important reefs under eight blocks of the town site on selection 59, and the miners are now at work sinking a shaft to cut one of these reefs at about 15 feet, and of other valuable reefs on this selection. One of the shafts on the reef known as No. 1, in the north-west corner of 59, is down about 34 feet, which revealed an improvement in the quartz and a width of reef of about 10 feet. The shot put in the exposed face brought down very good stone, showing a greater quantity of fine gold than had been seen in this shaft previously. This reef is stated to be well worth a deep vertical shaft being sunk upon it between the two present shafts. There are other well defined reefs, which I should specially mention, traversing one of the reserves. There are several other finds in this block, but I forbear going into too many details. Writing under date September 17, this is what Mr. Anderson says of these reefs: "Since my last I have pegged out as a mineral reserve that portion of selection 59 lying between the 6 miles 50 chains and the 7-mile post on the west boundary. I took some very good stone from this reef, showing fine gold very freely in every good stone. The reef runs east and west, and I believe will turn out to be a small reef. There is, however, a large, well-defined reef also traversing the reserve, which I call No. 5." On block 45 Mr. Jones (one of our prospectors) has just reported a discovery of some importance, and I may read you what he says in his report. The district is known as the Mount Martin district:—"Since writing my last report I have discovered another gold bearing reef, which lies 1½ miles of the southern boundary due north and south, such line to strike the boundary about 1 mile west of the upper south-west corner of the furthest southern portion. The country around No. 2 reef is of a highly auriferous nature, covered with numerous quartz outcrops, and if only 2 per cent. of these prove payable you will even then have a great number of payable lodes. Mount Martin reef extends for a distance of 1½ miles, cropping the whole distance, with two or three reefs running parallel to it, which ought to make into a big body of stone at a depth. In conclusion, the whole of the block, and especially the south-east corner, is very prolific in the number of reefs, and a great percentage of them are of stone of very kindly nature.—(Signed) W. Calthorp Jones." I should tell you that this corroborates closely the opinions of all who have seen the block. Of course, you will understand that with such an immense area, 216,000 acres, all selected as mineral land, it is impossible, without very great expenditure of time and money, to properly prospect even a small percentage of it, and this was one of our reasons for increasing our resources by entering into the contract for the creation of a larger company with adequate capital at its command for development purposes. We have, however, done the best we could with our limited means. At the time our property was taken over, our wages bill per week, without manager's salary, reached £60, and there has been the outlay on plant to bear as well as general expenditure. Since the new company was formed boring machinery has been ordered to bore down to 1500 feet, capable of being increased to 3000 feet if necessary, to prove the existence of water. There is no doubt in the minds of all experienced engineers that water will be found long before this depth is reached, as it has already been found at 150 feet, but it is thought well to go down deep enough to reach a permanent artesian supply. Before concluding, I may read to you what Messrs. Bewick, Moreing, and Co., whose representative, Mr. Mercer, explored the lands on their behalf, say of some of the blocks, and their mineral and water resources. "Before dealing separately with each stage of the journey, we may with confidence state that from end to end of the company's property there exist abundant indications of mineral wealth, confined naturally to belts of varying width, but existing from Block 59, in close proximity to Coolgardie, to the more remote blocks of the series, situated within 6 miles of the now famous Kurnalpi. Dealing with the various districts somewhat in the order visited, the country included in Block 59 is, perhaps, the best known. We have been approached more than once by prospectors who claim to have discovered gold bearing reefs, and enquiring as to the conditions under which they could work them. With one of these our representative visited a most promising locality in the south end of the block, and from the float containing gold we have little doubt that the reefs existing there would be well worthy of attention. This is only one instance. We have marked in red ink reefs at such points only where we know, personally, reefs to exist; numerous other places where reefs are reported our representative has been unable to visit. In the north-west corner also of this block, within 1½ mile of Bayley's, various reefs have for some time been under development by the syndicate's manager. Proceeding eastward along Block 53, towards Wangee, the volcanic nature of the country is at once apparent, and our course was liberally intersected with quartz outcrop, ironstone blows, and other indications common to the auriferous portions of this country. At Wangee, several immense outcrops of most kindly looking quartz, traceable for onwards of ½ mile out of the company's freehold into the leasehold portions, were noted. This district we consider the heart of the auriferous belts that stretches, with one or two breaks, from Coolgardie on the west to Block 42 on the east, a distance of about 40 miles. The general strike of the reefs varies a point or two east and west of north and south, with occasional cross or contra reefs. The north and south reefs are, in the main, the productive ones, though the east and west are by no means barren. Carrying out a limited supply of water it was necessary not to delay. Between Goddard's dam, passing north of Mount Martin, and thence to Boolgarmie and Goddarbie, exists a succession of outcrops, and abundant evidences of auriferous country. We then visited Block 41, and requiring a fresh supply of water, we were obliged to make a detour to the I. O U. condensers. Having replenished our water tanks, we travelled to Kurnalpi. Here we camped at the condensers, and inspected the neighbouring blocks with the aid of the packs and riding horses. Speaking generally of these sections, the auriferous indications are not so widespread as in the westerly; nevertheless, outcrops exist, and in Block 32 in the northern position gold has been found. Ironstone in blows, hills, and ridges, as well as in the form of conglomerates, sand, and gravel, is freely distributed over large tracts of the property. These conditions are precisely those under which the rich gold reefs in other parts of the gold field occur. Here, as elsewhere in this country, the question of water supply bears at first a serious aspect; excepting a few gnama holes or rock holes, notably at Yindi, and other smaller ones at Boorie, Goddarbie, and Boolgarnie (varying in their capacity from 50 to 10,000 gallons), the country is lamentably deficient in natural supplies of surface water. No records, at least reliable, exist as to the amount of rainfall, but evidence is undeniable that at times it is almost tropical in volume, though, perhaps, local in extent; it is, therefore, only, in all probability, a question of construction of tanks or reservoirs to overcome this difficulty. Salt water is obtainable in numerous lakes; and everywhere at depths varying from 50 to 150 feet, and we cannot see, even if it never rained, what is to prevent the country being opened out for pastoral purposes at least, by means of a regular system of shafts and condensers, thus providing ample supplies of water for stock. A well thought out scheme of this kind we are convinced is feasible, and, together with the introduction of the diamond drill, should be the first consideration in utilising this splendid tract of country. It would materially assist the work of the prospectors, facilitate the transportation of stock, and result in the gradual settlement of the remotest portions of the property. In conclusion, we need only add that with all the possibilities of mineral wealth, the richness of the soil, and the abundance of pastoral lands, there can be do doubt that with carefully considered schemes for utilising all the natural advantages, and judicious management in overcoming the few disadvantages, the Hampton Lands have a very promising future before them." (Applause.) This report confirms all previous reports of our own explorers, and the opinion we ourselves have always held of your property. It does not, of course, profess to be exact or complete, as with areas of such vast extent it is next to impossible to determine their mineral capabilities without great expenditure of time and labour; sufficient, however, is proved that these lands are of a nature to promise the realisation of all the expectations we have formed of them, and that your long deferred hopes will result in more than satisfaction to you after full development of the lands has been effected, which the Plains Company by its large working capital will be enabled now to carry out. Gentlemen, I beg now to move the first resolution:—"That the report and accounts be adopted, and that a dividend of 10s. per share, free of income-tax, be declared on the issued capital of the syndicate, payable at once." (Applause.)

Mr. B. S. BRIGG said, in seconding a resolution which authorised

a distribution of 50 per cent., he did not think many words would be required from him. He had only to bear testimony to the accuracy of the carefully-prepared statement which they had just heard, and which, he believed, set forth exactly the position of the company, and also to congratulate the shareholders on the happy position which, after a lengthened period of suspense, they at present occupied. He might say that this position was largely due to the untiring energy of, and the large responsibilities assumed by his friend, Mr. G. W. Brown, to whom the shareholders were indebted to a degree, which he believed many of them did not realise, and which Mr. Brown's modesty would prevent many of them ever knowing. As to the position of the syndicate at the present moment the directors might be wrong in the judgment they took; but he might say they were not acting in the matter. Twelve months ago, when the shares were hardly saleable at all, or at a very low price, the directors held just about one-half of the nominal capital. Since that time a large advancement had taken place in the shares, and had the directors not the confidence they had, they would have had an admirable opportunity to reduce their holdings at a handsome profit. He was, however, able to state that the proportion of shares which the directors held was just about the same to-day as a year ago—namely, nearly half of the entire capital. (Hear, hear.) It was not for him to anticipate the statement that would be made at the statutory meeting of the Hampton Plains Company, but he believed it would be eminently satisfactory. The extent of reef they had discovered, and the vast amount of territory yet to be explored, had caused the Hampton Plains Company to feel it desirable to add to their resources, and he believed that at the statutory meeting an announcement would probably be made on that point, and also one of a satisfactory character with regard to the town sites. Undoubtedly the future of the syndicate was a very bright one, bound up, as it was, with the Hampton Plains Company. (Applause.)

The resolution was then put and carried unanimously.

Mr. SCRUBY proposed that a grant of £800 should be made to the directors for their services during the past 12 months, to be divided amongst them as they themselves should decide.

Mr. GORDON seconded the motion, which was agreed to unanimously.

A further grant of £50 was voted to each of the three trustees for the debenture holders for their services during the currency of the debentures.

The retiring directors, Lord Arthur Butler and Mr. G. W. Brown, having been re-elected, and the auditors, Messrs. Monkhouse, Goddard, and Co., re-appointed, the proceedings terminated with a cordial vote of thanks to the Chairman and board.

DEVON GREAT CONSOLS COMPANY, LIMITED.

A prosperous and successful Jubilee.—Dividends fully maintained.—Mr. Sloper's "obnoxious" questions.

The ordinary general meeting of the members of the Devon Great Consols Company (Limited) was held on Wednesday, at Winchester House, Old Broad-street, the chair being occupied by Mr. PETER WATSON, C.C. (the Chairman and managing director).

The SECRETARY (Mr. George Hadlee) read the notice convening the meeting.

The CHAIRMAN said:—Gentlemen, I rise to address you upon the present occasion with a great deal of pleasure, both in the interests of the shareholders in Devon Great Consols—of whom so large and influential a body are assembled here to-day—and of our employees; for this is, as you know, our Jubilee year. (Applause.) During the past 50 years the company has completed a record such as very few companies either in the City of London or elsewhere can show. (Hear, hear.) With your permission I shall have something more to say upon that matter after we have concluded the business for the transaction of which we are met together—the reception, namely, of the directors' report and statement of receipts and expenditure for the six months ending October 31, 1894. No doubt you will take the report as read, in the usual way, so as to save the time of the meeting. (Hear, hear.) The main result of the half-year's account now laid before you is a credit balance of £2622 17s. 1d. The amounts received for copper ore and arsenic during the six months, leaving out the shillings and pence, have been £13,752, which with the amount of the copper ore sale on the 18th October, most of which has, I am told, since been received, gives us a total of £14 289 odd. As was stated at the half-yearly meeting in May last, a considerable outlay in repairs to the machinery had then been and would thereafter be made. During the last six months a boiler has been paid for and put into its place at the arsenic works, and other necessary additions and repairs carried out, in order to maintain the efficiency of the plant and machinery throughout the extensive run of the several mines and works belonging to the company. As to this I may say that according to the report of our engineer everything is at present in thoroughly good working order. Satisfactory contracts both as regards quality and price for 12 months' supply of coals have been made. At the last meeting I was able to tell you that we had saved a very considerable sum—between £800 and £1000—by a favourable contract made some twelve months ago. Since then, upon the expiration of that contract, we have entered into another equally satisfactory and advantageous one. (Applause.) When the directors recently visited the mine, at the beginning of last month, we were having an enormous stock of staves brought in, in quality some of the best we have seen in the mine for a good many years. They are all carefully stocked under cover, so as to be protected from the weather. They are used, as no doubt you know, in the construction of barrels for our arsenic, and it is of the first necessity that they should be of high quality, because our arsenic is sent to all parts of the world. They are being purchased on very favourable terms. Arrangements are, moreover, being made for the supply of a stock of rails which will last us about two or three years. These are for our railway, of which we have something like an extent of 6 miles in and around our mines, for among other things, conveying our coals from the quay and for the conveyance of our products thither for shipment. The continued low price of copper has militated much against the receipts for sales of this company's ores, but there is some hope of obtaining improved prices for both copper and arsenic shortly. The report of Captain William Clemo, now submitted, gives full particulars of the underground operations now being carried on, and the production per fathom from each point of copper ore and arsenical mundic, and from what we directors saw and heard when we were last down at the mines, and from what we have heard this morning, we are able to say that we are firmly holding our own. In the words of Captain Clemo, we are "looking very well." So far, in fact, as the mines are concerned, everything is satisfactory. The concluding paragraph of the report will, I hope, be very pleasant reading for you:—"The directors paid 3s. per share dividend in May, 1893, 3s. in November, 1893, and 3s. in May, 1894, making £1,216,937 18s. paid to the shareholders during the last 50 years, and they will, at the forthcoming general meeting, announce the declaration of a further dividend." Turning now to the accounts, I must say a few words, though really there is little that needs comment. They are in the form they have regularly assumed for the past 50 years, and all the details of expenditure incurred during the period in question are clearly set forth. They are, I think you will consider, fairly satisfactory. (Hear, hear, and applause.) Then there is the report of the manager, which speaks for itself. Both Captain Clemo and Mr. Bawden are here, and both they and I are able and willing to answer any questions you may think it necessary to put. I have to announce to you that the directors have to-day again declared a 3s. dividend. (Applause.) That will absorb half the amount we have in hand, and a similar amount will be carried forward to the credit of the company. (Applause.) Seeing that I shall have something further to say to you later on, this being our Jubilee year, I will for the present now conclude by moving:—"That the directors' report and statement of accounts to October 31, 1894, now submitted to this meeting, be received and adopted." (Applause.)

Mr. THOMAS GLEN seconded the motion.

Mr. SLOPER had one or two questions to ask, and he hoped they would not be considered as in any way obnoxious. First, he wished to know whether the cost of the new boiler was included in the present accounts among the materials. One question he had asked last year he wished to repeat: Were the directors prepared to state to the shareholders what the conditions of the new lease were? He asked that because he had not been made aware what those conditions were, and he thought the information such as ought certainly to be communicated to the shareholders. At one of the recent meetings he had been told, in reply to a question as to the probable duration of the mine, that it would last until his hair had grown a great deal greyer. (Laughter.) But he thought some approximate estimate should be made and laid before the shareholders. He hoped these questions would not be thought to be offered with the desire to make himself obnoxious; they were questions which every shareholder had a right to ask. The duration of the mine was quite within the bounds of calculation. Shareholders should remember that the mine was not a copper mine. It was upon arsenic that they were depending for their profits. At any rate, for a period of 13 years from 1880 to 1893 no dividends had been paid.

The CHAIRMAN: That is a thing of the past, Mr. Sloper. I must ask you to adhere to the question of the adoption of the report and accounts. What you are now telling us we have had from you over and over again. (Hear, hear.) Every shareholder is aware of it.

Mr. SLOPER, proceeding, said that the increased price of arsenic enabled them now to declare dividends. The shutting up of other mines, and the command the Devon Great Consols had over the market, had put them in this position. As compared with 1893, however, their sales of arsenic had decreased £2000, and he wished to know how this decrease had arisen. The Chairman had not mentioned the damage which the flood had occasioned to the Tamar dam, and he should like to know what the probable cost of repairing this would be. Since the last meeting the directors had joined another board.

The CHAIRMAN: We are not here to discuss any concern but this. (Applause.)

Mr. SLOPER put it that the gentlemen on the board had joined the directorate of another company, which competed with their own, and whose finances——

The CHAIRMAN: I must call you to order. (Hear, hear.) I will not allow you to make these statements detrimental to this company. They are distinctly disadvantageous to our interests, and I am advised by the solicitor to call you to order. (Cheers.)

Mr. SLOPER did not understand how it was that the directors could join another concern to compete with their own in the sale of arsenic.

The CHAIRMAN: I must ask the shareholders present to support me. (Applause.) Mr. Sloper comes here meeting after meeting and makes these remarks, and if I am in the chair and have to protect your interests, as I have done for 18 long years—(applause)—I am not going to allow any shareholder to endeavour persistently to prejudice the affairs of this company as Mr. Sloper has done. (Applause.)

Mr. SLOPER bowed to the ruling of the Chairman. As already he had stated, he had no desire to make himself obnoxious in any way. ("You are!") These questions he had asked as a shareholder, and he believed that if the mine were properly managed it would turn out far better than it had hitherto done. He assured the meeting that he preferred these questions without any temper—(laughter)—and he hoped there would be satisfactory answers to them.

The CHAIRMAN: I will answer one of Mr. Sloper's questions by saying that the boiler is charged in the accounts. As to the leases, I prefer that the solicitor should answer that question.

Mr. SNELL (the solicitor) was sorry he had not anticipated Mr. Sloper's questions, otherwise he would have brought the draft leases and carefully gone through the clauses. They had, however, long been before the shareholders, and the terms in which the leases was drawn up were quite the usual ones. The leases were for seven years, and contained provisions for the employment of a certain number of men, and for the proper protection of the company. The leases were on the same lines as all the leases of the Devon Great Consols had been for the last 50 years, and any alteration had already been laid before the shareholders, and any alteration was in favour of the shareholders. (Hear, hear.)

The CHAIRMAN: I should like to add that formerly the royalty was 1-12th, and subsequently 1-18th. Then the Duke of Bedford gave up the royalties altogether for a certain period, and afterwards Mr. Snell and I went laboriously into the matter, and as the result of my negotiations the royalty was reduced to 1-36th. (Applause.) All this has already been before you, and when the leases were submitted at the shareholders meeting Mr. Sloper might have asked any questions which occurred to him. If Mr. Sloper had put any direct questions as to the term of years or royalty he would have been answered immediately. If I were to tell you all the various clauses it would take no end of time. You shall be furnished with a copy if you like. ("No, no," and laughter.)

The CHAIRMAN continued: No doubt Mr. Sloper's hair will get a good deal greyer, and mine, too, before Devon Great Consols is exhausted. (Applause.) The question was asked nearly 50 years ago—in 1845—since then the shares with £1 paid have gone up to £700 and £800 per share. The same question was again put in the following year, and the answer returned was always the same—"It is impossible to say." We have now got a lease for seven years, and, no doubt, we shall want one for another seven years, and for many other similar periods after that, I hope. (Applause.) Mr. Sloper has asked about sinking the shafts. In all probability we shall sink some of the shafts, but what we have to do is to work on the stuff we have got and give you dividends. (Hear, hear.) Mr. Sloper has not said anything about driving. We are driving levels and are meeting frequently with very good mundic and copper ores. Then Mr. Sloper goes on—as he always does at these meetings—to remind us that we had no dividends from 1880 to 1893. Every shareholder—and I am glad to see many old shareholders present—knows that full well, and how hard a work it has been to keep the mine going through all its difficulties. (Applause.) Our property is one of the very few in Cornwall and Devon that has been kept in so good a position. (Hear, hear.) I predicted some years ago, if you would only give us time and have patience, we should recommence paying dividends; and we have done so. (Applause.) Mr. Sloper's remarks are really most contradictory. At the last meeting he said he would not sell so much arsenic, and now he goes on to say that the increased production of arsenic accounts for the dividend we are paying. (Laughter.) He is completely wrong. Shareholders will remember that Mr. Sloper was dead against the change in the local management. What was the result of that change, however? Why, we saved £400 a month—(applause)—or nearly £5000 a year. (Applause.) In addition to that remember what we have done for you in the way of dividends this year and last year. I am very sorry that Mr. Sloper will persist in his course of ill-natured criticism. (Hear, hear.) Several shareholders have asked him in this room to desist, but he has not seen fit to do so. His tone is, however, very different to what it used to be. The room was hardly large enough for his voice when he had a few shareholders to back him up. (Laughter.) Now he hangs down his face, is very mild and submissive, and does not desire to be obnoxious. (Laughter.) For my part I wish he would confine himself to asking plain questions. I am sorry any reference has been made to past management. I have a great respect for the late manager, Mr. Richards. The directors asked him to reduce the costs of the mine, and when he could not see his way to do it they asked him to resign, which he did. This has, however, been before you so many times that I am sick of it, and am sorry Mr. Sloper should continually bring this question forward. As to the Tamar Weir Mr. Bawden will have something to say. We have photographs of it here, and shareholders can see what damage has been done. We anticipated that Mr. Sloper would good-naturedly touch upon that point. (Laughter.) I am happy to be able to tell you that, while we thought this misfortune would entrench upon our finances, and perhaps oblige us to give you a 2s. instead of a 3s. dividend, there has been no necessity for this. The damage might, however, have been in one way very serious, for it allows a body of water to be diverted instead of passing over our wheels. Mr. Bawden will be able to tell you that in a week or few days more we shall have this remedied, and shall no longer feel it. Mr. Sloper might have had the fairness to mention that the Tamar River rose 30 or 40 feet. Such floods have never before been known in Devon and Cornwall, and the occasion was one upon which Mr. Sloper might have been rather sympathetic than unduly critical. (Applause.) Matters have already been arranged to meet the necessities of the men, not a tenth of whom passed over the bridge. Those are the answers which I give to Mr. Sloper. I have told him I have no personal feeling against him; but I am here to protect the interest of the company, and so long as you put confidence in me—(applause)—as you have for a period of 18 years—I shall continue to do so. I congratulate the shareholders very heartily on the very satisfactory position of affairs, despite the great difficulties we have had to contend against. (Applause.)

The motion for the adoption of the report and accounts was then put and carried unanimously.

Mr. BAWDEN, who was received with applause, wished, before passing on to deal with what had befallen the Tamar dam, to inform Mr. Sloper and the shareholders that it was not from the arsenic, but from the copper ores that they were paying dividends. An idea obtained among the London shareholders that the arsenic was produced from a stone which was afterwards thrown away. This was not the case. The arsenic was disseminated throughout the whole of the lodestone, and they never sold a ton of copper ore until after it had been calcined. The copper ore contained on an average from 12 per cent. to 15 per cent. of arsenic, so that really the value of the copper ore was not what was represented at the ticketing at Redruth, but should have the value of the arsenic added to it. Arsenic could not be produced unless they were to produce copper ore, the latter being now the bye-product. Mr. Sloper had contradicted himself when he said that the dividends were earned by an increase in the arsenic, and then in the next sentence complained that there had been a decrease to the extent of £2000 in the bye-product. (Laughter.) He never liked to refer to the past management of the mines, and he always desired to live on friendly terms with the late manager. The first year that Captain Clemo had the local management, and when he (the speaker) was purser, the arsenic was sold at £9'10s. per ton some £1 10s. less than previously; but they managed in spite of this drop to work off an overdraft of £6500 at the bankers—(applause)—and since then the shareholders had had dividends. As to the Tamar Weir, some photographs of the place had been taken so that the shareholders could see just where the water was rushing through. They were now preparing to stop the gap, but he need not tell any practical man that to stop the rush of a hundred or two tons of water was no light thing. A board or two could not be put up where a block of granite 20 tons in weight would be washed off. They were preparing something that would float back into the opening, and stop it as tightly as a cork going into a bottle. Most of the water would be blocked immediately, and they would have it flowing into the mine. At present 450 horse power was being worked by the wheels, which were under ordinary circumstances equal to 700 horse power. The management were studying the interests of the shareholders as much as possible—as, indeed, it was in their interests to do, and he hoped that in a week or two they would be able to report to the board of directors that practically the weir was blocked. Before sitting down he might mention that the water had risen to about 30 feet above its usual height, and hardly anything could resist such a force as that.

Captain CLEMO, in response to an invitation to speak, said a few words in which he expressed his pleasure at being able to inform the meeting that the underground workings were looking very well indeed. In fact, he had not seen the mine looking better at any time within the past three years than it did at present. (Applause.) He had no fear that they should not keep the returns going when they had got the wheels right again, which might take a little time and a little money. He was quite certain from the appearance of the mine that the results would continue to be quite as satisfactory as they had been in the past. The present condition of the mine was such that they could hardly desire it to be better, and he could assure the shareholders that every effort on the part of the management would be directed towards its maintenance. (Applause.)

Mr. J. H COLLINS enquired how much driving had been done during the past six months, and suggested that in future this information should be added to the report.

The CHAIRMAN: We give that information every year, but this is the half-yearly meeting. We have been driving four or five ends.

Mr. BAWDEN said that some little time ago it was thought not to be in the interests of the company to present to the world what the management were doing as a guide to other people. Any shareholder could, however, get the information by applying for it. Altogether they had driven during the six months 21 fathoms 1 foot 9 inches, had sunk 20 fathoms 4 feet 3 inches, and had put in 20 fathoms 4 feet 3 inches of winzes and rises. They had had 113 men working underground on tutwork. He should be delighted to give Mr. Collins further information as to costs and averages, but it would perhaps be hardly advisable to publish this to the world.

Mr. SLOPER: The amount driven is 21 feet in six months? (Laughter.)

Mr. BAWDEN: Rather more than that. Twenty-one fathoms, or 126 feet.

The CHAIRMAN then said: Gentlemen, I should like now to make a few further remarks, seeing that this is our Jubilee year. The letters of congratulation I have received assure me that the shareholders are very gratified at the present highly satisfactory position of the company, and I may tell you that out of 10,000 shares I hold proxies for something like 8000, while the shareholders present represent a very considerable number. Such marks of confidence as this justify us in assuming that the present management of the company is giving general satisfaction. (Applause.) There is only one shareholder who remains dissatisfied, and I would fain hope that after this occasion—when we have celebrated our Jubilee—he may forget what has passed. Certainly I would rather have him as a friend than a foe, and leaving aside all personal feeling, I should be glad in the interests of the shareholders and of the harmonious working of the company to shake hands with him. Certainly our mine is looking better to-day than it has done for a very long period, and shareholders should remember that it is not only the Jubilee of the mine, but also that of Captain Clemo—(hear, hear, and applause)—who, with his brother, first made the discoveries which commenced the career of the mine. There are very few undertakings in this country which have been more prosperous than ours, and this must be a proud day for Captain Clemo. (Applause.) Having risked their lives upon many occasions by going down into the mine, when there was not a speck of copper or mundic ore visible, they, Captain Clemo and his brother, one day came across a faint indication of copper, which grew larger and larger as they followed it until they last of all came to a lode worth £1000 every six feet. Thus, having started with an insignificant capital of something like £700 or £800, they eventually came upon the vast stores of wealth which have yielded the profits you have received. The magnitude of these will appear when I tell you that the amount of copper ores sold by the company from the commencement of its existence to May last is £3,453,487. We have paid in royalties on that to the Dukes of Bedford £261,000. In addition we have sold arsenic to the value of £466,132, and paid royalties on that to the amount of £15,000. The sum expended on the property—and which has benefited the district in which our mine is situated—has been something like £2,000,000. Practically, out of our profits we have paid £594,000 upon steam engines for the mine, waterways, railways, reduction works, &c.—a splendid record, when it is remembered that our capital is only 10,240 shares of £2 paid, and that the bulk of the sum I have mentioned was paid when the shares were only £1 each. Then we have paid 158 dividends, amounting to £1,215,000, and have sunk in shafts 2876 fathoms, in winzes and rises 6400 fathoms, and driven levels and crosscuts 30,268 fathoms, making a total of 39,545 fathoms, or

equal to the best part of 45 miles. (Applause.) Then we have sold tinstuff to the amount of £160 in addition. All these facts are worth recording upon this present occasion, for it would be well if they became generally known, for the encouragement of other mining companies. At the present time, unfortunately, both Devonshire and Cornwall are suffering a great deal on account of the low price of tin. We, however, appear to have had the run, and there is no mine in either county that has done so well as the Devon Great Consols. This is a highly satisfactory record to look back upon, and I trust that the hopes of the shareholders who wrote to me wishing that there might be another 50 years of similar prosperity in store for the company may be realised. I should like to read to you the letter, and I hope that the suggestion it contains will be acted upon. Writing to me a few days ago a shareholder says:—"I am very sorry that I may not be able to be present at the Jubilee meeting of the Devon Great Consols Company, and, therefore, I beg to tender you in this way my very best wishes in your position as managing director of the mine, which I hope will continue always to turn out favourably to all parties concerned therein for a further 50 years. I should be very glad if the meeting will consent to grant a fair gratification to the persons employed by the company upon this occasion, and, therefore, beg to ask you to vote for me on such a resolution, or even to make such a motion in my name. I enclose my proxy for that purpose. P.S.—Say about £100 might be distributed in conformity with seniority." I may say that we have now in our employment about 416 people. Mr. Bawden wrote to me as to the accident to the Latchley Bridge, and I think we ought all to be very thankful that nothing worse happened, for the floods were such as had never been known in the county before. We have certainly had more than our share of the calamity. What has happened at Windsor and Reading is nothing to what has befallen Devon and Cornwall. We have, however, come out of the ordeal fairly well. I would refer once again to the remarks of our old friend Mr. Sloper. He has given me an opportunity of saying something about an undertaking with which I am very proud to say my colleagues and I are connected, and which sells some portion of our produce. Allow me to assure you that had we not been connected with this concern we might have been all at sea in reference to a particular commodity in which we are all interested. We have benefited by this connection in the past, and I hope we shall benefit by it even more largely in the future. (Hear, hear.)

Mr. JOHN COPPEN expressed his pleasure at the proposition contained in the letter, and said it had forestalled one of a similar kind he had intended to make. Thanks were hardly a substantial enough return to make for the efforts of those who had contributed so much towards the success of the company. He believed they had been most admirably served by their splendid captain, and he sincerely hoped that the formal resolution he was about to propose would be received by the meeting with absolute and cordial unanimity. He thought the shareholders could very well spare 200 guineas, while His Grace the Duke of Bedford might be asked to contribute an additional sum, and his Grace would probably be glad of an opportunity of supplementing their own grant. He hoped further that the shareholders would work as much as possible in harmony with each other, and back up the Chairman. (Applause.) In conclusion, Mr. Coppen moved:—

> That in this the Jubilee year of the starting of the mine belonging to this company a hearty vote of thanks be, and is hereby, given to the Chairman and managing director and his colleagues; also to the secretary, the local management, and the employees of the company; and that the directors be and are hereby authorised to give, in such manner as they may deem desirable, to the officers and employees of the company, such amount as they may think proper, not exceeding 200 guineas.

Mr. RADFORD seconded the motion.

Mr. G. BOYCE, S.C.C., cordially supported the motion, and added a few words, in which he expressed the hope that Mr. Sloper would at last consent to bury the hatchet. He had observed that at meeting after meeting the questions asked had been answered in a manner so wholly satisfactory to shareholders that the course of antagonism displayed by Mr. Sloper appeared to be played out, and could advantageously be dispensed with. It was his desire to see absolute harmony prevailing at the meetings. As to the resolution, he was heartily glad it had been proposed, for while it would entail very little loss to the shareholders, it would be a great thing for those to whom they were in a certain way indebted for their dividends. (Applause.)

Mr. SLOPER also spoke in favour of the motion, saying that the company was admirably served by a worthy set of men.

The motion was then put and unanimously carried.

Mr. COPPEN then moved a hearty vote of thanks to the Chairman for presiding, and expressed the hope that he would be as strongly supported in the future as he had been in the past. (Hear, hear.)

Mr. SLOPER seconded the vote of thanks, explaining that he had propounded his questions from a sense of duty, and that they had been as obnoxious to himself as they could possibly be to the other gentlemen present. (Laughter.)

The motion was carried by acclamation.

The CHAIRMAN said: On behalf of my colleagues and myself I wish to thank you for your kind vote, and have no doubt that you would wish to include the staff. (Applause.) In conclusion, I may say that if Mr. Sloper or any other shareholder wish to ask any questions afterwards I shall be glad to answer them. I hope that we shall continue to prosper, as there is every reason to anticipate that we shall. (Applause.)

The proceedings then terminated in an agreeable manner.

ANGLO-FRENCH EXPLORATION COMPANY, LIMITED.

Capital increased.

An extraordinary general meeting of shareholders in the Anglo-French Exploration Company (Limited) was held at the offices of the company, Winchester House, E.C., on Monday, Mr. ERNEST G. MOCATTA (the Chairman) presiding.

The SECRETARY (Mr. W. Henderson Clark) having read the notice convening the meeting,

The CHAIRMAN said: Gentlemen, before I move the adoption of the resolution set forth in the notice, I wish to place before you more explicitly than we could do in our circular, our reasons for recommending to you the increase of your capital, and also to explain the manner in which we propose to carry that increase out. Our managing director in South Africa, Mr. Farrer, has for some time past strongly recommended us to take this step, as it will enable us to carry on our business in a more independent and, he believes, in a still more lucrative manner than we have hitherto been able to do with our small capital. Our managing director in London, Mr. Brailsford, who spent five months of the early part of this year at Johannesburg, and made himself thoroughly acquainted with the working of the business there, strongly endorses Mr Farrer's views. Several of our shareholders who have experience in South African matters also are strongly in favour of adopting this course. I can assure you that the board has no predilection for a large capital over a small one. It will add not a little to our responsibilities, and will very likely make an increased call upon the time—already sufficiently considerable—which we devote to the affairs of the company. But feeling as we do, from a fairly long experience, that our organisation is a thoroughly good one, and that our representation in Johannesburg is absolutely second to none on the fields, we should not be doing justice to our representative or to the shareholders if we did not most strongly recommend you by increasing the capital to place the company in the position it is entitled to hold. As to the manner in which we propose to raise this increased capital, we are asking you to waive on this occasion Clause 39 of the Articles of Association, which provides that all fresh capital shall be offered to the shareholders in the proportion of 75 per cent. to the ordinary and 25 per cent to the founders. We have decided to ask you to create 200,000 new ordinary shares, and we propose that of these 100,000 shall be offered at par to the shareholders in the proportion I have mentioned, and that the remainder shall be left at the disposal of the directors. We recommend this because, in increasing our capital, we thought it highly desirable to have our new issue guaranteed, if we could get it done for a small consideration. We considered the guarantee desirable, not because we thought that under ordinary circumstances there was any chance of the shareholders not taking up their shares, but because these decisions have to be taken and arrangements made some time before, in the ordinary course, they can be carried into effect, and there is always the chapter of accidents to be reckoned with. We were able to obtain, through the intermediary of a well-known firm of stockbrockers, a guarantee of our capital, the guarantors to have as consideration an option over half the number of shares guaranteed by them at a premium for a limited period. This we considered to be a very favourable arrangement for the company, it being borne in mind that all the new shares which will be issued will not be entitled to the interim dividend of 10 per cent. about to be paid, nor to the dividend which we have every reason to believe we shall be able to recommend the shareholders to declare when our accounts for 1894 are finally made up. The remaining shares to be created after allowing for the shares which the guarantors will have on option, we propose for the present to keep in reserve, to be dealt with in the future as we may think best for the company. We propose that the new shares shall be paid up 5s. on application, 5s. on allotment, and the remainder about the middle of January; so that the payments will average about the time when the shares become dividend-earning. None of your directors have personally taken any interest in the guarantee, with the exception of Mr. Farrer, and he has done so because he wishes, on the increase of capital—which he thinks so important for the company—to acquire a very considerable holding in the company's shares. He suggested to us that he would like to be one of the guarantors, and we readily assented to his wish. I very much regret that I have to explain to-day for Mr. Farrer what he would have explained himself had he been able to be here. He is suffering from a severe attack of illness; but the latest reports we have of him are very favourable, and I am sure we all trust that he may have a speedy and complete recovery. The alterations proposed to be made in the Articles of Association are to enable us to comply with the requirements of the London Stock Exchange when applying for an official quotation for our shares. As to the present position of the company, I am glad to be able to tell you that it is in every way satisfactory. We have recently announced the payment of an interim dividend of 10 per cent., and unless a most extraordinary and unlooked for change should take place in the position of our affairs, we shall be able, I think, when our accounts are made up, to recommend you to declare a very good final dividend for the year 1894, and also place a very considerable sum to reserve, or deal with it in such manner as the shareholders may think expedient. We have all noticed with pleasure—and here I speak more as a shareholder than as a director—that the market value of our shares has recently appreciated, though not, I think, to the full extent the position of the company would warrant. This has been to a considerable extent owing to the active demand for our shares in Paris, where a very intelligent and discriminating interest is taken in most of the South African ventures. I mention this because we are an Anglo-French Exploration Company, and it is no little satisfaction to us to feel that the title is justified by the interest that is taken in the affairs of the company on both sides of the Channel. I now beg to move:—

> That the capital of the company be increased to £350,300 by the creation of 200,000 ordinary shares of £1 each, and that notwithstanding the provision contained in Article 39 of the company's Articles of Association, 100,000 of such shares shall be allotted and otherwise disposed of to such persons on such terms and conditions, either at a premium or otherwise, as the directors of the company shall think fit.

Mr. MARCUS VAN RAALTE seconded the resolution, which was agreed to.

The CHAIRMAN then moved a resolution sanctioning certain alterations in the Articles of Association.

Mr. ROSENHEIM seconded the motion, which was agreed to.

A vote of thanks to the Chairman and directors closed the meeting

ALBION GOLD MINES, LIMITED.

The change of management.—Plans for the future.

The second annual general meeting of the shareholders in the Albion Gold Mines (Limited) was held on Tuesday, at Winchester House, the chair being occupied by Mr. ALFRED JONES.

The SECRETARY (Mr. R. S. Mackie) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, said that in the managing directors' report laid before the last meeting the opinion was expressed that the expenditure of a moderate additional sum would enable the output from the Talcose Mine to be increased from 800 tons of ore per month to 2000 tons. Consequently it was a great surprise to the board to find in the month of January last that milling from the Talcose Mine could not be continued without further development work on a large scale being done. The company's funds were exhausted, and consequently mining operations had to be suspended, though the board's advices up to the date of their last report (5th December, 1893) had led them to anticipate regular crushings. Consequently, it became necessary to raise a sum of £5000 or £6000 before work could be resumed. After frequent consultation with the shareholders, both privately and in general meeting, it was resolved to make an issue of 10 per cent. mortgage debentures, of which £3010 was ultimately subscribed. A further sum of £2500 of preference shares was also subscribed, making the total amount raised £5510. Having thus secured the necessary amount of working capital, the directors set to work to secure a competent manager and engineer, and accordingly appointed Mr. J. B. Settle, in whom they had every confidence, and who accordingly took over the management of the mines in December last. The board then decided to confine their operations to the Albion Mine, and Mr. Settle closed down the Talcose Mine, and proceeded to prepare the foundations for the erection of the pumping machinery, which had been on the mine since August 30, 1893. Good progress had since been made with this work, and there was every prospect that early in December the Albion Mine will be unwatered. The proposed policy was to open up the Albion Mine to a substantial extent before attempting to resume regular crushings. As already the shareholders had been advised by circular, the company had acquired the accompanying Criterion Mine of 24 claims, with plant and stores, for 15,000 fully paid ordinary shares of £1 each. The capital account now showed the authorised capital of the company to stand at £100,000, of which there were 22,500 preference shares of £1 each, £22,500: 71,386 ordinary shares of £1 each, £71,386; and 6114 shares authorised to be issued as preference or ordinary shares, £6114. In judging the accounts, it should be borne in mind that the working account was for a period of four months only. The directors had available about £2000 at the present time. The ordinary expenditure per month was £200, while a considerable sum would have to be expended on the construction of a tramway, which would have to be provided for as an extra. In conclusion, the Chairman said that under the careful, energetic management of Mr. Settle, there was little doubt that the company would regain its former prosperity. (Applause.)

Mr. C. KING SMITH seconded the motion for the adoption of the report.

Mr. HARRIS drew attention to the London expenses, which seemed to be rather heavy.

The CHAIRMAN, in reply, explained that the anxious time through which the company was passing had entailed a considerable amount of additional work and consequent expense. He could assure the shareholders—as they would be able to verify for themselves by a visit to the office—that value had been received for every shilling expended.

The motion was then put and carried unanimously.

The retiring directors having been re-elected, and the auditors re-appointed, the proceedings terminated with a hearty vote of thanks to the Chairman and board.

LISBON-BERLYN COMPANY, LIMITED.

Meeting of shareholders.—A committee to be appointed.

A meeting of the shareholders in the above-named company was held on Wednesday, at the Cannon-street Hotel, E.C., for the purpose of considering the best means of improving the company's position.

Mr. FREDERICK C. HOLLAND was voted to the chair.

The CHAIRMAN, after explaining the circumstances which led to his taking the chair, said: It is unnecessary for me to enter into the past history of this company. That, I am sure, you will agree with me is a fitting subject for a novelist, and I should be sorry to deprive any rising novelist of such a matter for romance. It is sufficient for my purpose, I think, if I take you back to the last six months. You are aware that within the last six months it became an ascertained fact that the ores contained within the limits of your vast property were capable of being treated by the cyanide process, and I think in consequence of that we all, as shareholders, have been expecting to receive a little more from the mines, and to know that, something more was being done. (Hear, hear.) It is really in consequence of getting no further in the matter that a great feeling of dissatisfaction had arisen amongst the shareholders, and naturally, inquiries have been made as to the cause of this apparent want of vigorous action on the part of the directors. The inquiries have resulted in ascertaining one fact, and I do not propose to carry you beyond it, and it is this—that there is a hopeless division existing upon the board. (Hear, hear.) In order to show how strong that division is, and how serious and detrimental to the interests of the shareholders, I may say that there is at this moment an action pending by one set of directors against another set of directors to restrain one set from communicating with the servants on the property. (Laughter.) It is not, I think, for us to inquire into this matter at this moment. I mean to say this—do not let us embark in the quarrel of the directors, because the moment we do that, and take sides in this question, we produce a worse state of things than has already been produced. It is, as I have said, enough for us to have ascertained the fact that there is a very sharp division among the directors which is inimical to the interests of the shareholders, and we know well that a house which is divided against itself cannot stand. The only thing we have to do, then, is to enquire how we can remedy this state of things. (Hear, hear.) Now, I maintain that it is for the shareholders to remedy this state of things. I say that the board is so constituted that without the assistance of the shareholders it cannot remedy this state of things—(hear, hear)—and I would just remind you that this state of things has been existing for some little time. A short time ago you may be aware that one of the largest shareholders—General Owen Williams—joined the board, and I would like to say, in passing, that I consider the shareholders are indebted to General Owen Williams for having thrown himself so gallantly into the breach, because he knew that when he joined the board there was a sharp division of opinion, and he must, therefore, have known that his was a difficult and thankless task. I believe it is no secret that in General Owen Williams's opinion the state of things is so bad that it is impossible to be continued; and I believe, further, it is no secret to say that in General Owen Williams's opinion the best solution—or, at all events, the first step towards the solution—is to be found in the resignation of the whole body of directors—(applause)—and that the shareholders should take upon themselves the appointment of a new board of directors. (Applause.) Now, gentlemen, that is the position in which we find ourselves. We are face to face with the possible retirement of the whole board, and it is with the view of organising the shareholders to be prepared for this state of things that we have ventured to call you together. What we fear is a meeting of the shareholders being called together by a divided board of directors. Now, if that took place there would naturally be a tendency—and it might be a right one, for all I know, so far as the directors are concerned—on the part of each set of directors to justify themselves and their action in the eyes of the shareholders; but it is inevitable that such action would be absolutely detrimental to our interests, and would be drawing us away from the very point which we have in view—namely, to get a proper board constructed—a homogeneous board, and a board that will act together. Now, gentlemen, I am prepared to say that it is a difficult thing to have to devise means for remedying this state of things. We know very well that Articles of Association are not drawn in the interests of shareholders. (Hear, hear.) It is a sad fact, and I hope that the committee which is now sitting on the question of the company law will look into that matter, and see whether they cannot give shareholders some greater degree of rights than they have at present. The power of initiating on the part of the shareholders, as Articles are constituted, is not at all such as I think it should be. Now, I have to lay before you a plan, which is the best I have been able to suggest. I do not claim for it that it is perfection, but I do claim for it that it is plain, simple, and straightforward; further, that it is one which should recommend itself to the directors, and that its adoption depends upon you. The plan is a very simple one, and it is that you should to-day appoint from among yourselves a committee in whom you should place confidence, whom you should entrust with the delicate task of conferring with the directors, and whom you should entrust further to take such steps as may seem in the best interests, and for the future prosperity of the shareholders as a whole. You will perhaps ask, who is this committee to be, and how is it to be appointed? My answer is that that depends upon you, but with the view of assisting you in this matter, I am going to propose a committee of large and representative shareholders, and I am prepared to stake my professional reputation on the fact that this committee had been impartially selected without even personal knowledge of the gentlemen, and for no other reason than that they appear to be substantial shareholders in the company. (Hear, hear.) I do not think it is possible to find a fairer way of electing a committee. If this course commends itself to you, I have no doubt that the directors, knowing as they will that the committee is appointed truly to represent the whole body of shareholders, will not hesitate to adopt such course and fall in with such views for the future working of this company, as will shortly bring your company into the front rank of South African dividend-paying concerns. (Applause.) The resolution I have to move is—"That the following shareholders in the Lisbon-Berlyn Company, or so many of them as will consent to act, be and are hereby appointed a committee for the purpose of recommending to the shareholders the taking of such steps as may seem best for the future conduct of the company." (Here followed the names of the proposed committee.)

After a little discussion, Mr. PROFFITT wished to state that he had consulted several of his fellow shareholders, who had large holdings in the company, and he was glad to say that since the previous day he had obtained the signatures of 25 shareholders, holding, in the aggregate, over 100,000 shares, to the following requisition, which he proposed to read, for the simple reason that he wished to ask those present to sign it. It had to be signed by one-fifth of the capital, which was equivalent to 200,000 shares. The requisition ran thus:—"We, the undersigned, shareholders in the Lisbon-Berlyn Company, holding in the aggregate one-fifth and upwards of the share capital of the company, hereby require you to convene an extraordinary general meeting for the purpose of considering, and, if approved, of passing a resolution for the removal of all or any of the directors, as the meeting may determine, and for the election of new directors, and we further give you notice that, in the event of the resolutions being passed by the required majority, we further require you to convene within the time allowed for that purpose a second extraordinary general meeting to confirm the same as special resolutions; and we give you further notice that as the meeting is necessitated by differences between the members of the board themselves, we object to any circular, report, or proxy being sent out to the shareholders of the company at the expense of the company."

(Applause.) The two directors whom he supported were quite willing to concur in the course suggested in the requisition. They had signed the requisition, and he need hardly say that they would not require a resolution of the shareholders to remove them, because when the meeting assembled, acting on his advice, they would, in an unqualified manner, place their resignation in the shareholders' hands, and leave the matter with them. If the other directors adopted the same policy the remedy would be very simple. He quite approved of the appointment of the committee.

The resolution was then put and carried unanimously.

On the motion of Mr. LANDAN, a vote of thanks was given to the Chairman, which terminated the proceedings.

ROODEPOORT DEEP LEVEL GOLD MINING COMPANY, LIMITED.

Directorial plans for the future.—An increase of capital decided upon.

The third ordinary general meeting of the shareholders of the Roodepoort Deep Level Gold Mining Company (Limited) was held on Wednesday, at the Cannon-street Hotel, E.C., Mr. PERCY TARBUTT occupying the chair.

The SECRETARY (Mr. W. F. Andrewes) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen, what we have to report to you to-day in regard to our year's working is practically only in connection with the developments that have been carried out, and, therefore, no lengthy speech will be required from me to explain to you what has been done, except upon the point of finance, which I will come to at the end of the few remarks I have to make. Turning to the accounts, there are some items on which, no doubt, the shareholders would like to have further details than are given in the balance-sheet. As regards the authorised capital and the issued capital, you all know exactly how that stands. The first point which requires any explanation is, I think, the sundry creditors in London, £90 odd. This was for directors' fees, auditors' fees, and income-tax which were not paid at the date of the accounts. In South Africa the sundry creditors were £4059 odd. This was mostly in regard to the acquisition of the Ida Block, which we more particularly wished to secure for the sake of the water right, which amounted to £3000, and there were trade accounts amounting to £1000. Then there were the advances and interest for the Consolidated Gold Fields of South Africa, £22,000. It will be within the recollection of the shareholders that at the last meeting I explained that the funds of the company were practically exhausted when we reached the reefs, and that we proposed in the immediate future to carry on operations by means of a loan which was offered us by the Consolidated Gold Fields. At the end of October the amount we were indebted to them was £37,500. In consideration of the loan they had the call of the 10,000 unissued shares at par. Those shares were then at about 12s. 6d. to 15s. They exercised that call, and thus reduced the amount of our indebtedness to about £27,500. On the other side of the account, the first item on which you will probably wish to have some details is the expenditure on mine development account during the period under review—£13,681. Of this amount, roughly, £6500 was expended on the main shaft, £5000 on the driving of the six levels which are now in operation, £1000 odd in winding and pumping, £500 odd in maintenance, and £508 on surface work. Well, then, the additions during the year to the machinery and plant amount to £11,000. This is a large item; but we have equipped the mine thoroughly in every way, excepting with regard to the battery, on which we are now asking for tenders. The equipment is a very full one, consisting, as it does, of some boilers, amounting in the aggregate to 350 horse power, a 100 horse power hauling engine, air compressors for 12 rock drills, of which 10 are at work, and an 80 horse power pumping engine; so that the mine is thoroughly equipped, and when we have the battery started I hope we shall begin earning dividends. The next item, I think, is the additions to the buildings during the year. This is not a very large item—£2200—including, as it does, men's quarters, buildings for the various engines, and so forth, and a Kaffir compound. I do not think it is necessary to give you all the details which go to make up the general expenditure in South Africa—viz., £1356—which covers claim licenses, rent, directors' fees on the other side, engineers' remuneration, general charges, bank charges, travelling expenses, and so forth. Then the general expenditure in London amounts to £601, directors' fees £300, rent and salaries £100, interest on borrowed money £141, cablegrams, &c., making up the difference. These are the only items which strike me as requiring any explanation; but if there is anything else upon which any shareholder might wish to have further information I shall be pleased to answer him. Now, I will refer to the financial policy of the board. At our last meeting I said, with regard to the question of increasing the capital of the company, so as to provide additional funds, that the directors would not entirely in the interests of the shareholders in this matter, and what I should certainly see that the best means would be used for raising additional capital. I also said if times were propitious it was likely that the shareholders would answer an appeal for that object; but if not, that the board would make the best terms possible to raise the money. Well, until quite lately the times have not been propitious. Our shares were at a discount, mining speculation was very dormant, and so we carried on the operations of the company, as I said before, by means of money lent us by the Gold Fields of South Africa, who are very large shareholders in this company. They treated us very well; they lent us all the money we wanted at 6 per cent., the only consideration they asked for being that they should have the call of our 10,000 reserve shares at par. As our shares were then standing at a considerable discount, we felt that we were perfectly justified in giving them that. The money has been expended, and we are £25,700 in debt; but, having nursed our company, and carried on our developments, and proved the value of the reef that we have got by means of the money we borrowed, we are enabled to get additional capital, not at par, but at 35s., by which we keep down very materially the share capital on which dividends will ultimately have to be earned. I think, and I feel pretty confident, that the shareholders will be willing to subscribe for their proportion of the issue at 35s., for the obvious reason that the shares stand very much higher than that in the market to-day. On the other hand, if there are any shareholders who do not wish to take their proportion we have others who are quite willing to take them off their hands.

Mr. KING: Are they all virtually taken at 35s.?

The CHAIRMAN: They are all virtually issued. I cannot say they are absolutely taken, because we have not asked for applications yet. As regards the position of the company, I may say we cabled over to learn the latest particulars in order to have it almost up to date for this meeting. The mine has been very carefully sampled by three or four independent men, and the whole of their estimates amount practically to the same thing. It comes to this, that up to the end of October we had 21,000 tons of ore developed above the levels which are now being driven, averaging 29 dwts. to the ton. Well, at the present rate of driving, we shall be increasing these ore developments by about 5000 tons a month. If we had a 40 head mill running now, we should be eating up about 4000 tons a month, so that even now the mine is really in a position to stand a 40 stamp mill if we had it on the spot, although I do not think it would be wise, as I hardly think there is enough ore developed, as I believe it would be a severe taing to do to start a 40 head battery with the mine only three or four months ahead of it. In the meantime, however, it is satisfactory to know that we have four or five months' ore development ahead of us, and that by the time the battery is running we shall probably have the ore developed eight or 10 months ahead of us, whilst we shall also then be developing at a greater rate than the battery can eat up. It will take some little time to get a battery. We had hoped to have bought one on the spot; indeed, we could have done so, but it was not heavy enough. The directors wanted to get the best possible machinery, so we declined to purchase. We are in negotiation with a neighbour who has a mill that might be valuable, and it is possible we might start crushing in three or four months; but I do not want to hold that out as a probability; it is only a possibility. We may, however, be perfectly certain that within six months we will be crushing, and crushing really first-rate ore. I now beg to move: "That the report of the directors and the accounts be received and adopted." If any shareholders wish to ask any questions, I shall be glad to answer them.

Mr. H. PALMER seconded the motion, which was carried unanimously.

On the motion of Mr. KING, seconded by Mr. TURNER, the auditors (Messrs. Fuller and Wise) were reappointed.

Mr. HODGES said he thought the directors were very insufficiently remunerated for the hard work which the affairs of the company entailed, and he wished to move that the directors be authorised to draw £600 for the past year instead of £300.

Mr. TURNER seconded the resolution, it was unanimously carried, and the first part of the proceedings terminated.

Subsequently a special meeting was held for the purpose of considering and, if thought advisable, passing resolutions authorising the increase of the capital to £180,000 by the creation of 60,000 shares of £1 each.

The CHAIRMAN, in moving the adoption of the resolution, said if the whole of the shares were taken up they would get about £87,500. After paying the Gold Fields Company the sum of £25,000, they would have left about £62,000 for additional working capital. In his opinion, however, they would not require all that. They calculated that to erect the battery, put up the shed and the cyanide plant, &c., they would not require more than £25,000, so his idea was that they should make the payments 5s. on application, 10s. on allotment, leaving the remaining 5s. to be called up as they required it.

Mr. A. DAVIDSON seconded the resolution, which was carried unanimously, and the meeting terminated with the usual vote of thanks to the Chairman.

THE TILT COVE COPPER COMPANY, LIMITED.

Steatite as a marketable commodity.—Looking into the future.

The sixth ordinary general meeting of the shareholders in the Tilt Cove Copper Company (Limited) was held on Wednesday, at the offices, 9, Queen-street-place, the chair being occupied by Colonel J. W. YOUNG.

The SECRETARY (Mr. E. C. Leaver) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, explained that the accounts carried them up to 1893—a delay which was occasioned by the fact that the lessees were for the present in possession of the company's current accounts. An arrangement was pending with the debenture holders, by which the company's position would be improved. A large amount of dumps was also in their possession, which he had no doubt would one day rank as a good asset, and in addition they would get half the profits of the Cape Copper Company when they made any. The reason why the company was not in a better position, was that the price of copper was so low. The debenture holders had made another proposition to find the money to open the west mine, and he was in hopes—having a good opinion of that property—that very good results would follow. Three years ago he visited the east mine, and, according to his calculations, they had at the present time about 300,000 tons of ore in sight without any further development. There had been a little falling off in the produce, but he did not think it was at all serious. He hoped, moreover, that the management would find themselves able to do something with the steatite or soapstone, which was very largely used in some manufactures, such as asbestos and india-rubber. The smelting works were proceeding satisfactorily, and he looked forward with hopefulness to the results. It was a long lane which had no turning, and he was inclined to hope strongly for a rise in the price of copper, and to entertain the view that the mine would be sure to become again a dividend-paying mine.

Mr. LEWIS seconded the motion, which was carried unanimously.

Mr. E. C. LEAVER said the Cape Copper Company were fully alive to turn to advantage anything likely to increase their resources, and careful enquiries had been made as to the value of steatite. There were, however, certain difficulties in the way of production which militated somewhat against the value of the substance.

The retiring directors, Colonel J. W. Young and Mr. J. R. Francis, having been re-elected, and the auditor, Mr. W. P. Peat, having been re-appointed, the proceedings terminated with a vote of thanks to the Chairman.

GOLDEN LEAF, LIMITED.

The Kinsella sale.—Acquisition of new properties.

The fifth annual general meeting of shareholders was held on Tuesday, at Winchester House, Mr. JOHN B. BALL in the chair.

The CHAIRMAN, in moving the adoption, said that the delay in calling the meeting had enabled the directors to give information of an interesting character. He would, however, first say a few words about their financial position. They had about £12,000 cash in hand, exclusive of what might be realised by the sale of the rest of their property; and a further asset, their share of the profit in the Kinsella. This would be practically all in shares. The latest advices from the Kinsella were encouraging. In connection with those who had joined in their labours and expenses, they held half an interest in both Mount Eba and Mount Robinson; two properties of apparently great merit, that were obtained and selected by Captain Vawdrey. Each property consisted of two 12 acre claims; and judging roughly from the usual configuration of Australian properties, he (the Chairman) estimated that they had from 3000 feet to 4000 feet upon the lode, and the reports stated that the lode was visible for over 1000 feet. What was especially remarkable in Captain Vawdrey's report was the strong personal recommendation he gave. He positively stated: "I am much pleased with the property, and have seen nothing I like so well, or, in fact, approaching it in Western Australia." The striking features of the report on Mount Eba were that there was a lode visible in the outcrop throughout 500 feet, that this lode carried gold in paying quantities averaging 3 ounces to the ton; that, in addition to other developments, a shaft had already been sunk upon the lode to the depth of 58 feet, where water was struck. According to Mr. Evans' report there were between 60 and 70 tons of ore at grass that would average 3 ounces to the ton, and within 2 miles from the mine water could be obtained from a salt lake for battery and condensing purposes, and there was a good supply of mining timber in the immediate vicinity. Mount Robinson seemed to be, from the telegraphic reports received (there having not been time yet to receive the full reports), a property similar in most respects to the Mount Eba—in fact, it was a continuation of the same vein, averaging the same width—an outcrop that could be traced 600 feet, the main shaft being down 33 feet. In considering Captain Vawdrey's report, he said it was well to be acquainted with that gentleman's antecedents. He would, therefore, read some extracts from a circular issued to the shareholders on April 30 last. The Chairman then read the circular, which stated Captain Vawdrey was well known in Australia, where he had been engaged for more than 30 years in mining, and that he had always proved himself to be thoroughly competent, practical, and well up in gold mining in all its branches. The Chairman, continuing, said he thought one company would be sufficient for them at the present, although they might later dispose of one of the properties to a subsidiary company at a handsome profit. The directors would offer the shareholders the opportunity of underwriting the company. The reasons why the Golden Leaf did not take over and work the property itself were that it was necessary to have shares to deal with to adjust the various interests, and also their spare capital would be insufficient. They hoped, however, ultimately to both secure and be in a position to work a property of their own. The general outlook for Golden Leaf was brighter now than it had been for a long time. He then moved: "That the directors' report and statement of accounts as now submitted be, and the same are hereby, adopted," and added they should regard the passing of the resolution as an expression of approval of the course the directors recommended in reference to the acquisition of Mount Eba and Mount Robinson.

The motion was seconded by Mr. PYKE, and carried unanimously.

In reply to Mr. CRAVEN and Mr. LASKER, the CHAIRMAN said that he did not consider it desirable at present to say what the company would get out of the Kinsella flotation. The Carlisle property was still in the company's possession. It had been placed on offer to a gentleman at a price which was a very poor one, and the option would have to be exercised by December 12. As regarded the Golden Leaf property, the gentlemen who had the option of purchasing it must pay $5000 on January 1 if he intended to exercise it. The amount of available cash was about £12,000, apart from the profit from the Kinsella.

Mr. Pyke was re-elected a director, and Messrs. Tilley and Co. were reappointed auditors.

The proceedings closed with a vote of thanks to the Chairman.

VILLAGE MAIN REEF GOLD MINING COMPANY.

A policy of vigorous development.—A healthy state of finances.

The fourth ordinary general meeting of the shareholders of the Village Main Reef Gold Mining Company (Limited) was held on Thursday, at Cannon-street Hotel, E.C., Mr. PERCY TARBUTT (the Chairman) presiding.

The SECRETARY (Mr. Herbert C. Porter) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen, I am sorry to see so small an attendance out of a total of something like 600 shareholders; but I think we may take it that they are fairly satisfied with the position of the company. Before formally moving the adoption of the report and accounts I will make a few remarks on the progress that has been made during the past year. As regards the development of the mine, the report puts forward pretty fully what has been done. I think the amount of sinking and driving that has been carried on is satisfactory, and is as much as we anticipated. The only thing that has upset us, and put us back at all, is the occurrence of a fault in the reef in the No. 2 level, which extends partially down to the No. 3 level on the eastern side, and also down to the No. 4 level, partially, on the western side. I never know how far I can explain these details of mining to shareholders generally without boring them. I can, if you like, give you a pretty clear idea of what the fault is, and the trouble it has given us, but I think it would weary you. Practically, it amounts to this, that since the reefs, as they are called—but which are really beds of deposit—were formed, a crack has occurred in that portion of the reefs, splitting them in two, and which has left, for a distance of 200 feet, what should have been reef barren country. We have gone through that barren country and have got into the reef again on the other side, and, therefore, we have lost the small amount of ore which ought to have been in that ground. This has hurt us in this way. It occurred at a time when we did not want it. We were then beginning our development, and we had no large reserves ahead of us. If we had 40,000 or 50,000 tons of reserves, the loss of a few thousands, more or less, would have made little difference, because we could have taken the ore from other places; but we had not these reserves to fall back upon. The consequence has been that the supply of really good ore that we wanted for the mill has been cut away. As soon as my colleagues and I heard of this, we urged the local board to stop the mill at once, and to carry on further development to compensate for the loss of ore that this fault had occasioned. Well, the local directors thought they could supply sufficient ore to catch up from the reserves without stopping the mill. I think that they were wrong, and they have since come round to the same conclusion as your directors, and we shall probably close down the mill and push on development work for some months, and then add considerably to our stamping power. This is a matter of expediency, and, in any case, it will be a matter of economy to the company, because with a 80 or a 100-stamp mill you can crush ore at a lower cost per ton than you can with one of 40 stamps. I have taken the nasty part of the year's working first, and I will now proceed to speak of the pleasant side. Turning to the accounts, you will see that, under the circumstances I have mentioned, we have thought it better to write off the whole of the development for the 18 months against the reserve account. The reserve fund was formed for the purpose of meeting unexpected drawbacks such as this; and, as a matter of fact, we have utilised part of the reserves for the development; so that it fairly represents the position of affairs in the accounts by writing that off. There are some items in the balance-sheet which, perhaps, require some little explanation. The share capital and the reserve speak for themselves. The reserves stood at £100,150, but that amount has been reduced by the development work for the 18 months by £42,000. This amount is made up as follows:—Expenditure on the main shaft £1900, on the No. 1 level £8600, on the No. 2 level £16,000, on the No. 3 level £3000. On the No. 2 shaft, which is the one to cut the reefs at a depth of 1000 feet, we have spent £9800, and on the incline shaft to meet it £1700, while dams and sundry other things make up the £42,000. The sundry creditors in London amount to £3263, which include the interest on advances to the Gold Fields of South Africa, directors' fees, and certain things that had had not been settled at the time the accounts were made up. The sundry creditors in South Africa stood at £8759, which is made up of wages that were not paid at the date when the accounts were sent over; but, of course, they were paid at the beginning of next month. I do not know that there is anything on the other side of the balance-sheet which calls for special remark. In the profit and loss account you will see that the general expenses in South Africa for 18 months ended June 30, 1894, amount to £11,979. This sum includes rent, salaries, exchange, cablegrams, office expenses, and sundries, £1300; the general maintenance, including the payment to the Government for claims and licenses, &c., comes to £7152; the consulting engineer's fees to £1416; there is a small amount of £289 for law charges, while directors' fees, on the other side, amount to £200. The general expenditure in London amounts to £1777, of which the directors' fees come to £1200, the rent and salaries to £300, and there are also the usual items of cablegrams, law expenses, &c., which make up the total amount. The ore crushed during the period under review amounted to 29,858 tons, at a total cost of £63,878, or £2 2s. 9d. per ton. This amount is high; but it must be borne in mind that in working the comparatively narrow south reef a great deal of hand sorting has had to be done before the ore is sent to the mill. Approximately, about one-third of the ore broken is put on one side as waste, and only two-thirds go to the mill, which necessarily raises the apparent price per ton of ore milled. The gold produced from that tonnage had a money value of £88,724. The net result of the working during the period covered by the report shows a profit of £13,502. At the last meeting I was somewhat pressed by one shareholder to say when we should pay a dividend, and I explained then that we started as a very small company, with a very small

number of claims, and that we have grown to a very big one, and we had to provide for an equipment and development which we never contemplated at the beginning. Consequently, we want all the money at the moment that we can possibly get, and I am quite sure that it will be for the ultimate benefit of the shareholders if they will let us utilise any profit that we can make out of the mine to open it up. Ours is a very large property. We have about 90 claims, and if the shareholders will exercise a little patience, and allow us to thoroughly equip the mine, and put up the necessary machinery to cope with the enormous amount of ore we have got, we shall ultimately reap a larger benefit than if we distributed a small profit at this early stage I hope the shareholders will agree with that, because it is the policy the board has taken up and stuck to from the beginning. To refer back to the management of the mine, you will remember that Mr. Arthur Boucher was our consulting engineer. He is the superintendent engineer of the Consolidated Gold Fields of South Africa, but their business has so enormously increased that it is impossible for him to devote much time to the Village Main Reef. We, therefore, looked about for a man who could devote the whole of his time to the company, and we have succeeded in securing Mr. Franklin White, who came from the Luipaard's Vlei Company. Mr. White has been manager to some mines with which I have been connected for 12 or 15 years, and I can assure you he his an excellent, painstaking, and competent manager. By securing him we have been able to do away with a consulting engineer, and this will be a saving of some thousands a year to the company. I do not know that there is anything else that I need refer to; but I should like to observe that these are days of very large amalgamations. As, probably, most of you who are interested in other Rand companies know, the general tendency is to slice up this reef into big portions and big companies, with 1000 head of stamps running, and if such an amalgamation takes place in our particular part of the Rand it will be near where we are situated, because the Village Main Reef holds the key of the position. We have above us the Wemmer, the Salisbury, the Jubilee, and a large part of the City and Suburban, while we have below us a portion of the Rand Mines, the deep levels owned by the Salisbury Company, and properties owned by the Gold Fields Deep; therefore, it is quite impossible to carry out any large amalgamation scheme without taking in the Village Main Reef, and taking us in on perfectly fair and equitable terms. I do not say that such an amalgamation could take place on equitable terms now, because the market value of the outcrop companies is capitalised at such an amount that represents per claim a sum so much higher than our own. It would be necessary to see the Village Main Reef shares at £10 before we could come to any equitable arrangement with the claims above us. I shall be glad to answer any questions which any shareholder wishes to put. I now beg to move the adoption of the report and accounts.

Mr. ALBERT DEACON seconded the motion.

The CHAIRMAN, in reply to a SHAREHOLDER, said that the directors had invested the £70,000 they had in hand in Gold Fields of South Africa debentures, some of which they had sold at a very good profit.

The motion for the adoption of the report and accounts was then put and carried unanimously.

Mr. Albert Deacon having been re-elected a director of the company, and Messrs. Fuller and Wise re-appointed auditors, the meeting terminated with a vote of thanks to the Chairman.

MEXICAN MINERAL RAILWAY, LIMITED.

Amalgamation with Palmarejo.—Poll to be taken.

An extraordinary general meeting of this company was held yesterday at Winchester House, Mr. F. P. PIGOU (the Chairman) presiding.

The SECRETARY (Mr. Robert J. Scriven) read the agreement for the amalgamation with the Palmarejo Mining Company (Limited).

The following is a short outline of the agreement:—

(a) That the undertaking of this company is to be taken over by the Palmarejo Company. (b) That in substance the debentures of this company are to rank *pari passu* with the debentures of the Palmarejo Company of similar class, being charged upon the united undertakings of the two companies. (c) That the shareholders of this company are to receive fully paid shares in the Palmarejo Mining Company to a similar nominal amount, having certain preferential privileges. These arrangements to be accomplished, (1) By increasing the existing issue of £600,000 of the Palmarejo Seven per Cent. First Debentures to £755,000 repayable at par on January 1, 1905, and applying the additional £55,000 by giving £50,000 to the holders of this company's first debentures in exchange for their holdings of that amount, and using the balance of £5000, as far as necessary, in payment of accrued interest off those debentures to November 24, 1894. (2) By creating a new issue of second debentures of the Palmarejo Mining Company, bearing interest at 6 per cent. per annum, and repayable on the 1st January, 1-10, which will be issued to holders of existing Palmarejo 2nd and 3rd debentures, and of this company's 2nd and 3rd debentures, in exchange for equivalent amounts of their holdings. (3) As regards the shareholders of this company, by giving them in exchange for their shares pre-preference shares of the Palmarejo Mining Company, entitled to a non-cumulative dividend of 4 per cent. per annum for January 1, 1895, ranking before the existing preference shares of that company, with power to exchange such pre-preference shares into ordinary shares of the Palmarejo Mining Company at any time, or to take in lieu thereof 10 per cent. cumulative preference shares on giving before July 1, 1895, upon payment of 3s. per share and any accrued dividend in arrear in respect of the Palmarejo preference shares. It is further part of the scheme that the Mexican Explorations (Limited) on being released from their guarantee to the Palmarejo First Debenture holders, shall give up a proportion of those debentures amounting to about £13,000, which are thereupon to be cancelled and waive their claim for unpaid commission, amounting to about £1500.

The CHAIRMAN said that as he was not present at the last meeting he would call on Lord Grimston, who presided on that occasion, to address the meeting.

Lord GRIMSTON said it was his impression when he left the the last meeting that their difficulties were nearly over. It was not necessary, however, to dilate on the troubles that had arisen in connection with the agreement just read. That agreement expressed the views of the directors as to the best means of carrying on the company. There was no doubt that the action taken by Mr. J. W. Hart, a late director of the company, had seriously impeded the negotiations. The agreement removed almost every cause of dissatisfaction Mr. Hart could have. He respectfully urged Mr. Hart to withdraw his opposition to an agreement, which was bringing the matter to a conclusion. He begged to move the following resolutions:—

1. That the agreement which has been submitted to this meeting be, and is hereby, approved by the company, and be signed by the Chairman of this meeting, and the directors are hereby authorised forthwith to carry the same into effect.
2. That, pursuant to the said agreement, the undertaking of this company be forthwith transferred to the Palmarejo Mining Company (Limited) upon the terms therein contained.
3. That, for the purpose of carrying the said agreement into effect, this company be wound up voluntarily.

Mr. PETERS seconded.

The CHAIRMAN wished to state that he was convinced that they had a most valuable property, and that the amalgamation was the only way of preserving it. The silver question had upset all their calculations. When they were paying out, the dollar was worth 47d., and now they were receiving a return for money spent it was only 28d.

A motion for details to be read of the claims made by the Palmarejo against the company, was lost.

The CHAIRMAN stated that the amount was about £70,000.

Mr. A SCRATCHLEY said he had resigned his seat on the board because he thought the directors by forcing this agreement on the shareholders were sacrificing the Mexican Mineral Railway's interests to those of the Palmarejo Company. He was strongly disposed to favour amalgamation—on fair terms—which, however, he did not consider the present agreement offered. He asked the directors whether they thought one of the largest shareholders would oppose them if he thought the terms of the agreement were favourable to the shareholders of the company.

Mr. J. W. HART said his reasons for resigning his directorship were identical with those of Mr. Scratchley. He told them at the last meeting he was in favour of an amalgamation, but it must be on just and honourable terms.

The CHAIRMAN then put the resolutions, which were declared carried by 20 to 9.

A poll being demanded, the CHAIRMAN fixed it for Monday, December 10, from 10 till 1, at the offices of the company, 4, Copthall Buildings.

A vote of thanks to the Chairman, proposed by Mr. SOUTHCOTE, and unanimously carried, concluded the meeting.

CARN BREA.

Loss of £3053.—Call of 10s. per share.

A 16 weeks' meeting of the shareholders in Carn Brea was held on Tuesday, Mr. FRANK HARVEY presiding.

The PURSER (Mr. John Trevethan) read the accounts showing receipts amounting to £11,837 0s. 8d., and costs £14,889 17s 2d. with a consequent loss of £3052 16s. 6d. The present loss and the balance on the 7th August amounted to £4548 4s. 9d., and the call of 6s. per share at the last meeting had realised £1723 0s. 2d., leaving a balance to be carried to the next account of £3125 4s. 7d.

Captain W. T. WHITE read the report, the principal features of which were that Harvey's engine shaft is sunk to the 334, from which there is cross cutting to the south, to reach the lode, which it is expected will soon be cut. The development of Highburrow lode beneath the elvan is of the utmost importance for the future of the mine and should be carried on with all speed. The 310, east of Harvey's shaft, 62 fathoms, is worth £12 a fathom. A winze in the 286 and a rise in the 310 have met. This improves ventilation and enables a piece of ground, 35 fathoms by 22 fathoms, to be stoped. 18 fathoms of the rise were done in 5½ weeks. The 286 end, 110 fathoms from the shaft, is worth £8; stopes below this level worth £13, and, in 16 weeks, 58 tons of tin were got from here. In Highburrow east 13 fathoms of additional ground have been opened up for stoping, and nine points average nearly £14 a fathom. In Old sump the driving of the 244 east of shaft on Druid north lode, an important piece of work, is all that is now being done, owing to the low price of tin and low quality tinstuff hereabouts. Stoping here is offered on tribute. The new air compressor and boring machines have worked satisfactorily, exploring 191½ fathoms.—W. T. WHITE, JOHN DADDOW, W. THOMAS, JOHN PENHALL.

Captain WHITE, in supplementing his report, said that the importance of cutting Harvey's lode at the engine shaft was great. There was a branch in it going in a counter direction. They liked, however, to see these droppers, as they indicated the lode was near, but they could not tell how soon they would get under such a mass of disordered ground. They might cut a good lode in 8 or 10 fathoms. Fully one-third of the tin came this quarter, from Highburrow west, showing the value of the improvements made there. The produce there was 51 lbs. to the ton, as against an average of 46 lbs. for the mine generally. In Highburrow west the crosscutting would give an additional piece of ground, and he expected that as they went east it would improve. The loss at present was £15 a fathom. He had given the old sump a fair and legitimate trial. He considered the development of Druid's lode one of the best speculations in the mine, and he regretted that they were obliged to confine their operations to that one point. However, he hoped they would soon communicate with the old part of the mine. From that part they used to get 30 tons of tin a quarter.

The CHAIRMAN, in moving the adoption of this and the accounts, incidentally mentioned that £50 per ton was a moderate price for tin, and it was not unreasonable to expect that this price would be reached again. If they had received this price instead of £36 per ton it would have made a difference of £4500 in the accounts. It showed that there was still tin in the mine, and the mine was a good one, and one satisfactory feature in the accounts was that the whole of the last call had been paid with the exception of £2.

Mr. STRAUSS seconded, and Captain White was asked a number of questions as to the working of the mine.

The CAPTAIN said they had about 350 men working in the mine, and the average amount of wages earned by each man was £3 14s. a month. It was impossible to get men to work on tribute, notwithstanding that they had been offered two-thirds of the selling price of the tin, as well as a subsist being guaranteed.

The report and accounts were adopted and the committee re-elected.

On the motion of the CHAIRMAN, seconded by Mr. HEARD, it was decided to make a call of 10s. per share, the usual discount to be allowed if paid before the 8th January.

The CHAIRMAN stated that the committee had a dispute with the Tehidy office as to the meaning of one or two clauses in the lease, and the matter had been referred to arbitration, Mr. Chirgwin, of Truro, having been appointed on behalf of the committee, and Mr. Giffard for the lord. Mr. Chirgwin died before an umpire was appointed, and this gave both sides an opportunity to discuss the matter, and see if a settlement could be arrived at. They had held a consultation at the Tehidy office, but had been unable to come to an agreement. The main point of difference was as to whether they were not to pay dues under certain circumstances exceeding a quarter part of the divisible balance as distinct from profit. There was a difference of opinion between the two sides as to what was the divisible balance. The Tehidy office contended that they were entitled to £250 and the mine £750, whereas the committee said that they were entitled to £800, and £200 would be paid in dues. They were strengthened in this view by Mr. Marriott, who said the divisible balance was the amount divided among the shareholders, and not the profit made by the shareholders. Then in the lease it was stated that the adventurers should be allowed a sum not exceeding 5s. per ton for carriage of tin to the smelting house, and the committee naturally contended that this referred to all the tin sold, but the Tehidy office said there was a mistake in the clause, and it should only apply to 1-18th part of tin. This would only benefit the adventurers to the extent of £20 or £30, whereas if they were to be allowed 5s. on the whole of the tin it would amount to about £600. The committee had offered to meet the case by allowing the Tehidy office to maintain their contention on the one point and the committee to have the advantage on the other, but the Tehidy office had declined to accept this compromise. Messrs. Chilcott and Sons, the solicitors, advised the committee that they had a good case, and, being aware of the dangers of litigation, they now came to the adventurers for guidance in the matter.

After some discussion it was decided on the motion of Mr. BAIN, seconded by Mr. MAYNE, to refer the question back to the committee in the hope that they would be able to arrange an amicable settlement.

Mr. ARTHUR STRAUSS then gave an address of considerable length on matters affecting the price of tin, and gave an elaborate explanation of the effect of the low price of silver on the price of tin. He condemned past attempts to corner tin, which had failed because the promoters had only in view the making of a large profit, but under some circumstances the creation of a corner might prove a great boon. It was necessary that the present depression in trade should be removed, the market should be got into its proper and former state so as to inspire confidence in the consumers of tin, and he believed then they would get rid of the excessive stocks, and the demand for tin would increase in the same ratio as the Straits production. There was no reason to despair, and he had every confidence that the time must come when the consumption would be sufficient to meet the increase of the Straits production, which was really the key of the position at present. With the first signs of a revival in trade the price of tin would go to a higher level and be maintained there.

On the motion of Mr. VIVIAN, seconded by Mr. BAIN, a hearty vote of thanks was accorded Mr. Strauss for his address.

TINCROFT.

Loss of £420.

A 16 week's meeting of the shareholders of Tincroft was held on the mine on Tuesday under the presidency of Mr. F. HARVEY.

The accounts as read by the PURSER (Mr. F. W. Dabb) showed copper sold £520 9s. 10d., arsenic £1448 16s. 6d., tin ores £5620 15s. 9d., slime tin £231 6s., discounts £94 1s. 5d., carriage £10 16s. 9d., employers' liability £19 6s. 10d., total £10,945 13s. 1d. The outgoings amounted to £11,366 4s. 6d., showing a loss on the 16 weeks' working of £429 11s. 5d. There was a balance of £2290 16s. 3d. from the last account, and when the loss had been provided for there would still be a balance to carry forward of £1870 4s. 10d.

Captain TEAGUE read the agents' report.

Tincroft Mine, November 27, 1894.

SOUTH TINCROFT.—Martin's east shaft is sunk to the 342. We have commenced to drive east and cut the plot. In the 330 driving east of crosscut, east of Martin's east shaft, the lode is large and worth for tin £14 per fathom. In the 282 driving west of crosscut, east of Martin's each shaft, on the south part, the lode is worth for tin £10 a fathom. In the 300 fathom level we are crosscutting on the same part and the the lode is yielding saving work for tin. In downright shaft, sinking below the 330 fathom level, the lode is of a promising character. In the 320, driving west of downright shaft, the lode is worth for tin £3 a fathom. We are making very fair speed in driving the 320 fathom level crosscut south of downright shaft toward's Dunkin's lode. This we consider a very important point of operation.—North Tincroft. In the 164 fathom east of Willoughby's shaft the lode is worth for tin and arsenic £20 a fathom. In the winze sinking below the 164 east of Willoughby's shaft the lode is worth for tin and arsenic £20 a fathom. In the 154 driving west of Willoughby's shaft the lode is worth for tin and arsenic £10 a fathom. In the 120 driving east of Willoughby's shaft the lode is worth for tin and arsenic £9 per fathom. In the 154 driving west of Old Tincroft shaft on the north part, the lode is worth for tin, arsenic, and copper £12 fathom.—WILLIAM TEAGUE, JNO. HAMMILL, GEORGE NANCARROW.

Mr. E. HEARD, who seconded the motion, said it would be a serious responsibility to close Cornish mines and throw the miners out of employment. Anyone who depreciated Cornish mines was an enemy to the county. Consumption is very good, but production seems to be excessive.

The motion was carried.

A motion, thanking the committee of management for their past services, and reappointing them for 48 weeks, moved by Mr. WICKETT, and seconded by Mr. J. MAIN, was carried unanimously.

Supplementing his report, Captain TEAGUE said that the result of the alteration they had made in the sump shaft had proved very satisfactory. He had nothing bright to say about the mine, but with the present price of tin neither Tincroft nor scarcely any mine in the county could pay. They had done the best they could, and hoped for better times. (Applause.)

The CHAIRMAN, in moving the adoption of the report and accounts, said that the loss would be deducted from the revenue balance, and the committee did not recommend any dividend or call being made. He did not know what Cornish mining was coming to, but seeing that the price of tin had never been lower than it was at present there was hope of an improvement. He could not say whether the bad price was due to the depression in trade, the low price of silver, or the increasing importation of tin from the Straits, but, with regard to the latter, he could hardly believe, judging by the rate of export, that there was much tin ground left there, and he thought it would pay Cornish adventurers to send out a competent man to the Straits to obtain definite information on this point. It had been suggested that operations in the Cornish mines should cease for a time, merely keeping the pumps working. This would mean less money taken out of the adventurers' pockets, but if such a course were pursued what would the mines do in the meanwhile, and where would they get the men from when they wanted to recommence operations? The purser, manager, and staff were doing their utmost to work the mine economically, and had volunteered to have a 10 per cent. reduction in their salaries.

Mr. ARTHUR STRAUSS, having obtained the permission of the meeting to make a few remarks regarding Captain Oates' speech on South African tin, said some time ago he ventured to say that the production of tin from that quarter was about 100 tons a month, and that there was no danger to be apprehended from that quarter as the facilities of transport and the difficulties of obtaining labour were so great that the resources of South Africa could not be developed very rapidly. Captain Oates evidently did not trouble to read his speech through and blamed him for saying that the tin market would immediately be affected by the supplies from South Africa, whereas what he really said was quite the reverse. Certain information reached him (Mr. Strauss) that tin had been found in South Africa, and at the beginning of this year certain confidential reports were laid before him describing South Africa as one of the richest countries ever discovered for tin. That confidential report was furnished by a man who had considerable knowledge of the subject, and was no less an authority than Captain Oates. Upon this he sent out to South Africa a gentleman who was certainly the greatest authority on alluvial tin. That gentleman had been exploring in South Africa for some nine months, and he received from him weekly reports and frequent telegrams. He mentioned this to show that he did not speak without his book and that he had much later and fuller information on the matter than Captain Oates, who had not been in South Africa at least since the beginning of the year. Mr. Strauss then produced for inspection a large map of South Africa specially drawn to show where tin deposits had been discovered and where they were being worked. Captain Oates spoke of the Inhambane works as if that were the only tin mine, but he might as well point to Wheal Basset, and say that represented the tin mines of Cornwall. There were miles and miles of alluvial tin deposits in South Africa, and one large find had even been made on the slope of a mountain. In several places the tin had been worked in large quantities, but none had been shipped yet. There was a plenti-

ful supply of water, but the difficulties of transport were very great.

A vote of thanks to the Chairman ended the meeting.

THE OURO PRETO MINES OF BRAZIL.

The third ordinary general meeting of the proprietors of the Ouro Preto Mines of Brazil was held yesterday, at the offices of the company, 6, Queen-street-place, the chair being occupied by Mr. E A. PONTIFEX.

The SECRETARY (Mr. Henry Ward) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen, we should have been glad if a few more of our shareholders could have attended at this meeting as an encouragement to the directors, although I think we are entitled to feel that their absence is due to confidence in the board, rather than to any want of interest in the enterprise. Of course we could not expect our French shareholders to come over to London at this somewhat inclement period of the year, and the bulk of our shareholders are French. However, their interests are admirably represented here by MM. E. De Wael and Louis Maichain. I also have to express my regret that we have not to-day the pleasure of the presence here of Mr. John Taylor, who is kept away by a temporary indisposition. We shall not, therefore, have the advantage of the luminous exposition of mining details to which we have been generally accustomed, During the past year considerable and satisfactory progress has been made towards bringing the mine of Passagem into a dividend-paying position. Although we have crushed a little less mineral, due to the fact that we have been erecting a new 20-stamp battery in place of the old and worn-out 24-stamp one, yet the quantity of gold obtained has been a little more than last year. We raised 38.919 tons, producing gold to the value of £49.212, as against 39,692 tons, producing gold to the value of £44,701 in the previous year. The new 20-stamp mill was not completed until just towards the termination of our financial year, but by its means we are now crushing a little over 940 tons per month additional to what we have hitherto done, or 11,292 tons per annum, which, at the average produce of gold which we have been recently getting, will amount to an addition in our returns of over £13,000. The new mode introduced by our superintendent of treating the ore to which I alluded in my last year's remarks, and by which the process is very much simplified, and the extraction of gold considerably increased, has been at work very successfully during the whole of the year. By its means we dispense altogether with the necessity of using mercury for amalgamation, and we have saved something like £3500 in the quantity of gold hitherto lost in the tailings, resulting in an increased output of 8 per cent. of the total quantity of gold shown by the assay; in addition to which £1000 has been added to our profits, owing to the better assay of the ore raised from the mine. The general result of our operations has been that we have earned a gross profit for the year of £8441 6s. 1d, as against £4852 5s. 9d. for the previous year. This profit has been made notwithstanding that our costs have increased to the extent of £946 over the previous year, owing to the greater cost of labour and to a greater quantity of auriferous rock having been broken in the mine, and which now lies there ready for removal and treatment, the benefit of which we shall derive during the current year. This profit of £8441 has been dealt with in the manner stated in the directors' report, namely:—£1312 has been written off for depreciation of buildings, machinery, and plant; £3006 has been paid for interest on the debentures; and £3000 has been carried to a reserve fund to meet the payment of the debentures, which, as you are aware, are repayable by annual drawings of 1-15th of the total issue. Had the new mill arrived at the mine within a reasonable time our profits would have been considerably greater, but the transport was greatly delayed by the revolutionary outbreak in Brazil—which is now happily at an end—in our district, at all events. The dressing apparatus supplied to this new mill is working very satisfactorily, and I think we have found in it the best means of dealing with the peculiarities of the mineral which we have to work upon. We have sent out in connection with this mill eight Frue vanners, by means of which the original mineral is concentrated to 3 per cent. of its total bulk, and 79 per cent. of the gold is recovered in the first operation, the tailings assaying only 2 grammes per ton. This recovery shows a great improvement upon that of our other mills, as the average of them for the preceding financial year was 68 per cent., and that itself was an improvement upon the previous year, when the average was only 60 per cent. We are, therefore, gaining by this operation 11 per cent. of the gold produce over the average of 1893 and 19 per cent. over 1892. The thanks of the shareholders are due to the superintendent, Mr. Gifford, for this important change in the mode of treatment, which has been only possible by the minute supervision which he gives to the process, and the skill and experience which he brings to bear upon them. The chlorination plant at Passagem has also worked very satisfactorily during the year. The recovery from the tailings was 91·1 per cent., as against 90·9 per cent. for the previous year, which in itself was a very good recovery for mineral such as ours. I will not trouble you with any details about the appearance of our Passagem Mine, as that can be so much better dealt with by Mr. Gifford, whom I am glad to see here to-day, and who is now in England on leave of absence after the termination of his second term of three years in Brazil, and who proposes to return to that country towards the end of the year. I will merely say, then, that the mine looks exceedingly well at the present time, probably presenting a better and more lasting appearance than it has ever done before. The deeper levels not only extend the area of the ore ground, but seem to improve in the quality of the ore laid open by them. At Raposos we have been continuing the drivage of the deep adit level, which, as I informed you last year, we had then just given instructions to recommence. This adit has now been driven about 1350 feet, and we have just received a cablegram, bringing us the news that this costly and important work has had the wished for result of cutting the very important and promising Mina Grande group of ore-shoots, which were met with in the upper levels. The analogy of this mine and of the neighbouring Morro Velho Mine leads us to expect that the ore will be found to be richer at this depth than it was in the upper levels. This hope appears to have been realised, for the telegram tells us that the average assays from the lode give 28 grammes per ton. Should this mine turn out well, as we hope and believe, it will form a valuable and profitable adjunct to our present mine at Passagem, and will add materially to the prosperity of the company. Even without its aid, however, we hope that we have now arrived at the point when dividends have ceased to be in the dim and distant future, and next year I hope to congratulate you on the payment of the first dividend, for which you have so long and so patiently waited. Of our other mining properties of Borges, of Espirito Santo, and of Biesa I have nothing to say to-day, as no work has been done upon them during the past year. Their extent and their promising appearances justify the belief that they will some day become of great importance, and it is a matter of regret that our resources are not adequate to enable us to deal with them as they merit. It is to be hoped, however, that Passagem and Raposos will before long afford us the means of attacking these other properties. Perhaps, too, when the spirit of enterprise resumes its former activity, it may be possible for us to form a subsidiary company to work them. In the meantime I beg to move that the report and accounts for the past year, as presented to you, be received and adopted.

M. DE WAEL seconded the motion, which was then put and carried unanimously.

The CHAIRMAN, in proposing the re-election of the retiring directors, M. E. De Wael and Mr. John Taylor, referred to the admirable manner in which the former gentleman represented the interest of the French shareholders in England, and further said that any words of his would be quite powerless to add to the appreciation which all shareholders must entertain of the admirable manner in which Mr. John Taylor fulfilled everything he undertook.

M. LOUIS MAICHAIN seconded the motion for the re-election of these gentlemen, which was carried unanimously.

A motion for the reappointment of Messrs. Spain Brothers and Co. as auditors was unanimously carried.

Mr. H. J. GIFFORD, in answer to an invitation that he should address the meeting, said: After the very comprehensive account of the company's operations, to which we have just listened from our Chairman, and the full details of all technical work given you in the annual report, there is little left for me to add with respect to last year's working. As I have just returned from the mines, however, it may interest you to have a few words from me with regard to the general working and immediate prospects. It will be evident to any shareholder who has followed the continued developments of the Passagem Mine, that we possess there a very powerful and continuous ore body of considerable extent. It is true that this ore body is subject to local impoverishment by the intrusion of horses of sterile quartzite and schist; but the regular course of the lode has never been disturbed, and the sterile portions are isolated patches which, though sometimes of considerable extent, are not continuous. To instance this, I would point out on the plan the ground between the two shafts, which, at the 365 and 315 levels, consisted mostly of schist and quartzite, whilst at the 400 and 435 levels in the same run of ground we met with massive quartz lode averaging fully 20 feet thick, and extending over a length of more than 100 metres. Such a lode as this at our lowest stoping level, and the appearance of strong bodies of ore in the bottom of both shafts at a depth of 500 metres, are sufficient guarantees for the regularity of the ore deposit and its continuity in depth. The chief point for consideration for the future lies, therefore, in the grade of the ore. That in our case the ore is generally of low yield throughout, is a fact which has to be acknowledged, but it does not necessarily follow that because our ore is poorer than in some other mines, fair profits may not be realised. For it has been abundantly proved by modern experience in America, Africa, and elsewhere, that when large quantities of ore are available, a very low grade ore may be treated, in some cases, with greater advantage than a richer ore in small or irregular deposits. The essential thing, of course, to achieve these results is that the concern should be treated and developed on a large scale with a modern plant capable of dealing with large quantities of ore at a minimum cost. It is greatly to be regretted that such a plant could not have been erected at the commencement of operations by this company, for there is no doubt had such been the case satisfactory results would long ago have been attained. The principle, however, has been thoroughly recognised by the directors, and as far as the financial state of the company has permitted, it has been carried into effect. The changing of old machinery, and the erection of an establishment piece by piece is never satisfactory to the engineer as the laying out of a new and modern plant, but the best has been done that could be under the circumstances, with the result that whilst the monthly tonnage when I first took charge was about 1300 tons, we are now stamping at the rate of 4000 tons per month; and it is safe to say that had this not been done the mine could not have continued working. The advantage of working on a larger scale is seen by a comparison of the costs of treatment, for whilst this stood in 1889 at 30s. per ton, the total cost per ton of ore treated last year was not quite 20s. There is little doubt that by a further extension of the same principle, a corresponding advantage would be obtained, and I feel assured that this will be proved by the results obtained this year now that we have further increased the stamping power by the erection of the new mill. I may mention that we still have water power sufficient to stamp another 1000 tons per month, but to obtain this development other facilities would have to be provided in the way of more powerful hoisting machinery, and of rock drills for quicker development. Indeed, it seems that this matter of rock drilling appliances will have to be considered, even to maintain our present output, for owing to scarcity of labour it has been a great strain to keep up the supply of ore to the mills, and at the same time the necessary development work. The occurrence of the poor zones of ground to which I have already referred, and their appearance sometimes where least expected, makes it imperative, even with our wide lode, that exploratory work should be kept a long way in advance of the extraction, and if the labour supply continues to fail us as at present, we shall have no resource but to incur the necessary outlay for a rock-drilling plant. The question of labour has always been a difficulty with us, as the supply of native labour is totally inadequate to the needs of the country. Hitherto we have partially solved the difficulty by employing over 200 Italians, but now even the constant stream of foreign immigration is insufficient to supply the demands of the large number of new enterprises and public works which have lately been undertaken. A matter which has been most disappointing to the shareholders, and to all concerned, has been the decrease in late years in the value of the ore, but it is satisfactory to find that this has been met by improvements in the process of treatment and that the yield for last year shows an improvement over the preceding year. You are aware that we have a most refractory ore to deal with, and I can assure you no pains have been spared to arrive at the most satisfactory process for dealing with it. As the result of the most careful and long continued trials, a complete change in the system of treatment has been gradually evolved, and I believe that the process, as now completed in the new mill, is the most perfect that can be used on the ore we have to treat. I will not enter into details about this, as it has been fully dealt with in the report before you. I think, gentlemen, that I have given you information on all the more important points, but I shall be glad to answer any further questions. It is a great pleasure to me that after all the up-hill work we have had, we have at last been able to show a profit, besides paying the interest, and redemption of debentures, and I feel hopeful that the present year will show still more satisfactorily results. You will readily understand that, with ore running rather under 7 dwts. per ton, it is only by strict attention and hard work on the part of all concerned that profitable results could be attained, and before finishing I should like to testify to the zeal and activity with which I have always been cheerfully supported by the rest of the staff at the mines.

Cordial votes of thanks to Mr. Gifford and the staff for the able and zealous manner in which they had devoted themselves to the company's interests, and the Chairman for presiding, concluded the proceedings.

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(BY OUR SPECIAL CORRESPONDENT).

TWO important meetings were held on Tuesday, Carn Brea and Tincroft, and the results of the last four months' working show how disastrously the drop in the price of mineral has affected the mining industry in the country. At Tincroft it is a long time now since the adventurers found a balance on the wrong side of the books, and but for their wisdom in building up a small reserve fund in times of prosperity they would probably have had now to liquidate the loss by a dip into their pockets. As we have pointed out before, Tincroft has a great advantage over her neighbour, Carn Brea, in being able to make good returns of copper and arsenic, and in such times as these such accessories are doubly valuable. These two products have brought in this time just £2000—a considerable item, and one which is worth all the attention which Captain Teague is bestowing on it. The copper is coming principally from the 154 west of old Tincroft shaft on the north part, where the lode is valued for tin, arsenic, and copper at £12 per fathom. A loss of £420, less than 1s. 6d. a share, with an average price of tin of only £36, is by no means a bad result.

CARN BREA shareholders had to face the much more serious loss of over £3000, and had the most unpalatable duty imposed on them of making a call on themselves of 10s. a share, and this, too, on the very substantial return of over 300 tons of tin, so that practically they lost £10 on every ton of tin raised. It is very evident, therefore, that curtailment of operations is the only way out of the difficulty here, and this, we believe, will be done even more extensively than is generally anticipated. And this is most regretted by the shareholders themselves, because there is no property which deserves and requires a vigorous development more than Carn Brea, but the present cost is too big a price to pay for it. It is felt that there must be profits from other parts of the mine to help meet the cost of exploration, and that, in fact, the mine must, as far as possible, pay for its own exploration. We regret particularly that it is necessary to stop the driving of the 256 end at old sump, and restrict operations there to the driving of the 244, because most people who know the mine and the locality best agree that the chances of success are nowhere better than in the old sump part. What with the water and the economy, however, there is little chance of much development, though the result must be, if the depression continues for any length of time, that the mines will starve themselves out. All the available resources are apparently to be devoted to Highburrow east, where the great point is to get below the elvan on Highburrow lode. The indications are very encouraging, and the agents confidently believe that a great deposit of tin will be found there.

AN important statement was made at the meeting by the Chairman (Mr. Frank Harvey) in regard to the relations of the committee and the authorities at Tehidy, the lords of the mine. It has been known for some time that some difference of opinion existed—as also, we believe, between Wheal Basset committee and the lords—as to the interpretation of two of the clauses of the new lease. One point of difference is as to the meaning of the term "divisible balance" (the lord receiving one-fourth of the "divisible balance.") If, for instance, there is a difference between the two sides of the account, the Tehidy people claim to be entitled to £250, and the shareholders to £750, but the committee maintain that the shareholders' portion is £800, and the lord's £200. Up to the present time this would have amounted to about £600. The other point concerns a clause—which got into the lease in some inexplicable manner—by which the lord agrees to pay 5s. on every ton of tin carted to the smelting house, and the dispute is as to whether it applies to only 1-18th of the tin, or the whole quantity. As might have been expected, the legal advisers of the mine, and those of the Tehidy estate hold divergent views as to the interpretation of the clauses, and they will have to be settled, probably, by some legal authority. The matter is an important one, especially as the lease is a new one, and had a long term to run. The sensible course would be to agree to a case which could be laid before a counsel for settlement, or failing that a friendly action ought not to be a very expensive matter.

THE air has been full of politics in the Mining Division, and politics here seem to have resolved themselves into a question of the price of tin and the cause of its depression. Mr. Strauss has made several speeches on the question, and though his conclusions may not always be agreed with, yet the information on the subject which he possesses is doubtless valuable, and can scarcely be controverted. And in this respect it is rather astonishing that Cornish mining men should not long ago have thought it worth their while to do what Mr. Harvey suggested on Tuesday — combine and send a capable expert to the Straits, so that they might have information on the subject on which they could thoroughly rely. Although their very industry is dependent on the supplies which can be put on the market from foreign sources, they are dependent very largely on hearsay for their knowledge of what is going on in the tin fields of the East and Australia. Mr. Strauss was very candid, and went further than he has ever done before. He told us plainly that the Straits alluvial tin deposits will not be exhausted in this generation, but that we must anticipate an increased production from there. His argument, however, is that the importation of labour there is limited, and that the increase will be precisely in the proportion in which the increase of labour takes place, but he believes that the consumption of the metal will increase quite sufficiently to absorb the extra production. Mr. Strauss also gave us a good deal of information in regard to Swaziland tin, and produced a map showing the district in which tin had been discovered. He spoke of "miles and miles" of alluvial tin laid open, but he regards the difficulties of transport, and of procuring cheap labour as sufficient to prevent Swaziland from becoming an important factor in the situation for, at any rate, some time to come. Mr. Strauss concluded his last speech with the very safe prediction that when trade revives, there will probably be a better price for tin.

— The directors of the LONDON AND WESTERN EXPLORATION COMPANY have declared an interim dividend of 20 per cent. (4s. per share) payable on December 5 to shareholders registered in the company's books on December 1.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

MR. SAMUEL JOHN DAVEY, Dealer in Cornish Mine Shares, Redruth, Cornwall, reports under date of November 29 (4 o'clock) as follows:—We have had a very quiet market this week, with no increase of business or improvement in prices. To-day market is steady, but inactive. The following are quotations:—Blue Hills, 1s. to 2s.; Carn Brea, 5⅛ to 5⅜; Dolcoath, 50 to 52; East Pool, 4⅛ to 5; Killifreth, £2 2s. to £2 4s.; South Condurrow, ⅛ to ¼; South Crofty, ⅛ to ¼; Tincroft, 7 to 7⅛; West Frances, ⅛ to ¼; West Kitty, 5 to 5⅛; Wheal Basset, ⅛ to 1; Wheal Grenville, 13 to 13⅛; Wheal Kitty (St. Agnes), 1s. to 3s.; Polberro, 1 to 1⅛.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (November 29) as follows:—The continued decline in the tin standard and heavy advices for the month have caused a further depression on all stock, several of the calling mines being scarcely saleable, and without an improvement some of the mines will have to succumb to present prices. Closing prices:—Blue Hills, 2s. 6d. to 3s.; Carn Brea, 5⅛ to 5⅜, c.p.; Cook's Kitchen, 2s. 6d. to 3s.; Devon Consols, 1⅛ to 1⅛; Dolcoath, 50 to 50½; East Pool, 4⅜ to 5; Killifreth, 2 to 2⅛; Levant, 4⅜ to 5; Polberro, ⅛ to 1; South Crofty, ⅜ to ½, c.p.; South Frances, ⅛ to ¼; Tincroft, 7⅛ to 7⅜; West Frances, ⅜ to ½; West Kitty, 5 to 5⅛; Wheal Agar, 4s. to 5s.; Wheal Grenville, 13 to 13⅛; Wheal Kitty, 4s. to 5s.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers, and Mining Share Dealers, Redruth, write under date of Thursday, November 29:—There is rather better feeling prevalent, but business is very limited, and in the leading mines parties will neither buy or sell. Dolcoath, 51; Carn Brea, 5⅜; East Pool, 5⅛; Grenville, 13. Should tin advance a few pounds shares in progressive mines will command attention. Quotations herewith:—Blue Hills, ⅛ to ¼; Carn Brea, 5⅛ to 6; Dolcoath, 50 to 52; East Pool, 5 to 5⅛; Killifreth, 41s. 6d. to 43s. 6d.; Polberro, ⅛ to 1⅛; South Condurrow, ⅛ to ⅛; South Crofty, ⅛ to ⅜; Tincroft, 7⅛ to 7⅜; West Frances, ⅜ to ½; West Kitty, 5 to 5⅛; Wheal Agar, ⅛ to ⅛; Wheal Basset, ⅛ to 1; Wheal Grenville, 12⅞ to 13⅛; Wheal Kitty, ⅛ to ⅛. Tin 63½.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write November 29, 1894 (noon):—The several departments of rails furnish some distinct variations for the past week, and these are as contradictory as may be. Home rails are very generally better, whilst Americans—the latter notwithstanding some recovery yesterday—being lower almost without exception, the declines being, however, not particularly severe on the whole. It is worthy of note that in Home rails the advances given below are not contradicted by any change of a contrary kind, at least amongst the active list.—Higher: Metropolitan Ordinary 3½, Caledonian undivided 1⅛ to 2, ditto Deferred 1⅛, Lancashire and Yorkshire 1⅜, North Western 1⅛, North British New Ordinary 1, Brighton A ⅛, Dover A ⅛, Berwicks ⅜, and several others ⅛ or less. Americans have been a weak market all the week down to yesterday, when the tone mended, and some little recovery was made in prices. New York Central alone show any better on the week, and that only ⅜. On the other hand, declines are numerous, dues have been specially flat, and show 2⅛ down. Other declines range from ⅜ in Readings to ⅞ in Ohio First and a few others, the bulk of the rest being midway between the two extremes named. Canadians show improvements of $1⅛ in Pacifics and 1-16 in Grand Trunk Ordinary, but Trunk Prefs, &c, are lower as follows, viz.:—Guaranteed, ⅛ to ⅜; Second Preference, ⅛; and First Preference, ⅜. Mexican Rails quote ⅛ down in Ordinary and 1 to 1⅛ in Second Preference, but First Preference are unchanged. Consols have continued their upward march, quoting now ⅛ in advance of a week ago. Colonial Government Bonds, &c., are still in favour, and changes are only marked to better figures. New South Wales Inscribed are 1, and Canada Registered, New Zealand Inscribed, Queensland Inscribed, and South Australian Registered ⅛ each up. Home Corporation Stocks still improving, and no contradictions herein also.—Higher: Birmingham Three and a Half per Cent. 1, Hull Three and a Half per Cent. 1⅛, Batley Three per Cent. ⅛, Bolton Three and a Half per Cent. ⅛, Liverpool Three and a Half per Cent. ⅛, Stockport Three per Cent. ⅛, and Bradford Four per Cent. ⅛. Foreigners present but little of interest. The changes are few and contradictory, with slight numerical balance on the downward side.—Higher: Mexican Six per Cent. 2, Italian Rentes ⅛, and Turkish D ⅛.—Lower: Brazilian Four per Cent. ⅜, Argentine Six per Cent. 1, Argentine Five per Cent. ⅛, Spanish Four per Cent. ⅛ to ⅜, and Egyptian Unified ⅛. A fairly moderate number of transactions is furnished from the miscellaneous groups of shares without any distinct activity in any one section. Prices have undergone some revision, the result thereof being in most cases rather irregular.

BANK shares, with rather a straggling list of dealings, show prices better in all cases where quotations are altered at all, but that is not in many instances.—Higher: Preston Bank 1, Imperial Ottoman ⅛, Mercantile of Lancashire 1-16 to ⅛, and Manchester and Salford 1-16 to ⅛.

INSURANCE.—Dealings very sparse. Thames and Mersey are 3-16, and Reliance Marine ⅛ higher. Liverpool, London and Globe ⅛, Lancashire 3-16 to ⅛, Royal ⅛, and Palatine 1-16 lower.

COAL, IRON, &C.—Practically nothing doing herein.—Higher: Ashbury Carriage ⅛, ditto new ⅛, and Whitworths ⅛.—Lower: Bolckow Vaughan fully paid and £12 paid ⅛ each, Credenda Tube 1 to 2, Dorman Longs ⅛, Rhymneys 6d., and Staveley A ⅛.

MINES neglected here save for Consolidated Gold Fields.—Higher De Beers ⅜ to ½, Cape Copper ⅛, and Darien A 6d. to 2s. 6d.—Lower: Great Laxey Lead ⅛ to ⅛, and Rio Tinto ⅛.

TELEGRAPHS AND TELEPHONES.—A few markings in National Telephone Ordinary all the business reported.—Higher: Anglo Ordinary ⅛ to ⅜, National Telephone Ordinary 1-16 to ⅛, ditto Second Preference ⅛. There are no declines to record.

COTTON SPINNING, &C.—Market gone very dull again, and prices are but little if anything altered.

BREWERIES.—No business, and prices unaltered.

MISCELLANEOUS.—Canals comparatively quiet, but prices are steady, with a turn on the easier side in the ordinary. United Alkali have recovered to a fair extent, but not much compared to their recent decline. Manchester Carriage are down a further ⅛. Gas Light and Coke A 1 up. Chadwick's ordinary ⅛ improved. Other changes not important, but mainly on the lower side.

LATER (4 P.M.)—Home rails as a rule a little easier to-day, but Scotch stocks prominently are exceptions, they having developed considerable strength, finishing at about best points of the day. Americans without much, if any, feature of interest. Canadians the turn stronger. Mexicans neglected and figures unaltered. Good investments of nearly all kinds in demand.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (November 29), writes:—During the past week business has again been active, but principally in South African shares. There is no alteration in the prospects of trade, and the money market continues easy.

In shares of coal, iron, and steel companies the principal dealings have been in Steel Company shares, which have improved from 39s. to 46s. It is intimated that they have got their debenture money subscribed, except a small balance of the Second Mortgage. The Niddrie company have purchased and leased two coal estates near their present collieries. The report of the Cairntable Company shows the effect of the coal strike, as the reserve fund has had to be drawn upon to pay the 5 per cent. dividend. Addie and Co. Preference have advanced to £10; Bolckow Vaughan are at 5⅛; Fifeshire Main Collieries Preference, 91s.

In shares of copper concerns there has been little movement owing to the unsettled state of the market for the metal. Tharsis have been sold from 95s. to 96s. 3d., and Tinto from 14 15-16 to 15 5-16.

In shares of gold and silver mines the principal attention is directed to South Africans, although business has been interfered with by the intervening fortnightly settlement. Consolidated Gold Fields advanced to fully 70s. cum dividend on the circulation both in this country and abroad of the full report of the meeting, and they are now 67s. ex div. Chartered have also been in favour up to 44s. 9d, on the prospects of the meeting. Many of the cheaper shares, such as New Chimes, Orion, &c., show good advances, and the present tendency is strongly in favour of buying these cheaper progressive shares in preference to the higher priced dividend-paying mines. Otto's Kopje shares unaltered. The result of the new machinery is to be known after the middle of next month. Although Broken Hill have announced the usual monthly dividend of 1s., the shares did not go over 42s. 3d., and are now 40s. 6d. ex div. Emmas enquired for, on a proposal to acquire a West Australian property. Montana have been sold from 12s. 6d. to 13s.; African Land are at 7s. 9d.; Alexandra Estates, 5s. 3d.; Balkis, 4s. 9d.; Bechuanaland, 40s; Bufflesdoorn, 34s. 6d.; Bayley's Reward, 16s. 9d.; Carrington, 2s. 9d.; Caratal, 9d.; Champ d'Or Deep, 19s. 3d.; Consolidated Deep, 71s. 3d.; Day Dawn P.C., 7s. 3d.; De Lamar, 26s.; Day Dawn Block, 7s. 9d.; East Rand, 37s. 3d.; Frank Johnson, 21s. 6d.; Geldenhuis Main Reef, 20s. 6d.; Geldenhuis Deep, 6⅛; Gold Fields of Mysore, 17s. 9d.; Glencairn, 61s. 3d.; Gold Fields Deep, 67s. 5d.; Guy Fawkes, 13s.; Guadalcazar, 7s. 3d.; Idaho, 2s. 3d., Jubilee, 7⅛; Jay Hawk, 3s. 6d. to 4s.; Johannesburg Investment, 46s.; Kimberley Roodepoort, 25s. 9d.; Knight's, 53s.; Kleinfontein New, 65s.; Langlaagte Royal, 87s. 6d.; Louis d'Or New, 7s.; Luipaard's Vlei, 14s. 3d.; Metropolitan, 36s. 3d.; May, 35s.; Mozambique, 19s. 3d.; Mashonaland Agency, 27s.; Nigel Deep, 27s. 6d.; New Clewer, 40s.; Pigg's Peak, 7s. 6d.; Primrose, 5⅛; Paarl Central, 26s. 6d.; Roodepoort Deep, 45s.; Sutherland Reef, 19s.; South African Gold Trust, 52s. 6d.; Sheba, 29s. 3d.; Transvaal Estates, 14s.; Van Ryn, 75s; Victoria and Altamira, First Preference, 1s. 6d.; West Argentine, 1s.; and Wolhuter, 80s.

In shares of miscellaneous companies there is not much alteration to notice, Oil companies steady. Johannesburg Water, 25s. 6d.; and White Lead, 2s. to 2s. 6d.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of November 29:—During the past week Home railway stocks have been quiet, but towards the end prices have improved. Caledonian Deferred has risen from 39 to 40 9-16, North British from 36⅛ to 38⅜, Brighton Deferred from 155⅜ to 156, Dover Deferred from 83 to 84. Debenture and other high class stocks have been readily taken at enhanced prices. The business in Bank shares has been principally at previous quotations, but Bank of Scotland have risen from 331 to 332, Union from 21⅛ to 21⅜, and Royal have declined from 228 to 227. In Insurance shares the changes have been few. Liverpool, London, and Globe have receded from 47 to 47⅛, British and Foreign Marine from 23⅜ to 23 9-16, Commercial Union from 35 to 34⅞, Scottish Life have improved from 33s. to 34s. Australasian Mortgage and Agency Preference Stock has fallen from 85 to 70. Realisation and Debenture Corporation shares from 18s. to 12s. 6d. Steel shares have improved from 42 to 45s. 6d. A good deal of business has been done in mines. Pumpherston Oil at 5 1-16 have gained 1s. 3d. Other Oils unchanged. Edinburgh United Breweries have risen from 88s. 6d. to 109s., and the Preference from 9⅛ to 10. Distillers 2s. 6d. higher at 16⅛. Coats 5s. lower at 22⅛. Union Steamship of New Zealand 6s. 6d. lower at £7 6s. The following are the latest prices of deposits of reconstructed Australian banks, viz.: Australian Joint Stock, 15s. 6d. per £; Bank of Victoria, 16s. 3d.; City of Melbourne, 12s. 3d.; Commercial Bank of Australia, 13s. 3d.; London Bank of Australia, 17s. 3d.; National Bank of Australia, 18s.; Queensland National Bank, 13s. per £.

MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.E.

(Cabled weekly.)

Palmiets Estates.

This company owns the Monarch block of claims, which has the Sidney reef running through it, and also is a deep level of the George and May Mine. The reefs of the latter mine will be struck in the Monarch block at about 900 feet vertical. This block of claims, battery, water-right, trucks, rails, engines, headgears, &c., are worth the present market value of Palmiets (8d. per share). It is said that the assets, which are principally shares in the Salisburys, Nigels, Primroses, Heriots, are worth equal to about 1s. 3d. per share in the Palmiets. Holders at high prices should average these shares at the present market prices, as they are dirt cheap.

Langlaagte Estates.

The points raised by the local papers against the articles that have appeared lately in the home papers are—The amount of ore crushed per month, which they state to be only 21,000 tons, and against this argument it could be clearly shown that there are more tons of ore crushed on these fields than there are accounted for, for the simple reason that in the early days the footage per ton was taken from the free millings ore—which is the lightest—and this has never been altered now that the heavy pyritical ore is being milled, and it is known that there are companies milling 3 tons of ore, and only calling it 2 tons, so as to make the returns per ton average better. Another point that must not be forgotten is that if there are 1,000,000 tons of ore in a mine, there cannot be more than 75 per cent. of tailings recovered, as the extra 25 per cent. runs away in the slimes, and this is the reason why the Langlaagte has nearly exhausted their reserve of tailings, and this will in the future greatly affect the profits, and the time will come when the Langlaagte will have nearly 5000 tons less monthly to treat. It has also been proved that the reefs pinch and get smaller at the water level owing to the country rock getting harder, and if the Langlaagte has got over 60,000 tons per claim in the oxidised ore, then there is bound to be a less tonnage got from the pyritical ore; and also the reefs in this part of the Rand have been proved to flatten out to below 25 per cent., this again lessens the tonnage; this is proved by going away south to a point where the reefs dip out of the Langlaagte, and it will be seen that the country rocks get flatter and it can be taken for granted that the underlying rocks are also flattening. Large expenses will be incurred in repairing the machinery. There are several faults in the Langlaagte Royal, which will dip into the Estate, and this has not been taken into consideration, which will mean a loss. 4000 feet by 1250 feet is over 80 claims, and not 60 claims, as stated in the London papers; but as most of the old surveys were roughly taken this accounts for nothing, and it is a known fact that there are companies holding more ground than they are entitled to, or perhaps less.

Sheba.

There is not the slightest doubt but that the future of this mine is first class, and it can be expected that the working expenses will come down, and shareholders will during the next few months see a big advance in the profits and the output.

East Leigh Mine (Klerksdorp).

Mine patchy, tricky, and shares are dear at 20s.

Modderfontein.

Mine opening up very rich, and there may be a profit of £1 per ton when milling is started. On £4 per share the dividends will be very small, but the property is such a large one that it compares very favourably (claim for claim) with any mine on these fields, and the day is not very distant when these shares will fetch £5.

Knight's Witwatersrand.

The eastern section of the mine is opening up well and gives pannings up to 17 dwts. The central section is opening up beyond all expectations, and the returns will be about 7⅛ dwts. from the battery and 4 dwts. from the cyanide. This is going to be one of the biggest things on the Rand, and the shares will fetch £3.

Jumpers.

The new stone crusher and the ore sorter is nearly completed, and will be ready for work in a few weeks. This will increase the returns per ton about ⅛ dwt.

Geldenhuis Main.

The life of the mine is about eight years, and, at 20 per cent. per annum, this is not a good investment at par.

Bohemian.

The reefs are broken up, the outcrop claims being practically valueless, money having been wasted in the early days by injudicious prospecting. On the south east corner there are several claims on the dip of the banket, which are likely to realise a considerable figure at some future date.

Spencer's Block

adjoins the Ginsberg Mine (called the East Rand block) shaft being pumped out for engineer to report on previous to flotation. It is rumoured that a big amalgamation scheme is on the cards with the deep levels. This is a payable proposition, and £60,000 for working capital would ensure a profit of £2600 monthly. This property is likely to be placed before the public shortly.

Champ d'or Deep.

Crushing commenced last Friday; the return from the start will be equal to nearly 3000 ounces, or a profit of 3000 monthly. There is no possibility of an amalgamation—after two or three months the returns are likely to fall off. At 22s. shares are dear, though it is not improbable they will reach 26s. or 27s., but it is dangerous to hold them longer.

Gardener's Main Reef.

The Knight's Witwatersrand reef runs right through this property for about 10 claims, and the pannings from the western shafts are about 10 dwts. Negotiations are being carried on with adjoining property for amalgamation. So far unsuccessful, owing to the larger shareholders in this property asking too much.

Ginsberg.

The company have spent £40,000, and want another £35,000 before it is a dividend-paying proposition. Said to have struck a new reef. This will not effect the value of the property for some time to come. No doubt it will be a good mine later on.

Balmoral Mine.

The company has been reconstructed on favourable terms to shareholders, who will receive one for seven. The new company will start with about £40,000 working capital. The reconstructors have about 30,000 shares for 18 months on option at par. If this block be taken up this will be sufficient to put the company into a dividend position. The reef on the adjoining property (Knight's Witwatersrand) is opened up within 400 feet of the boundary, 18 inches wide, and gives 12 dwts. pannings. From this point across to the Gardner shaft, where the reef is again opened up, a block of 23 claims, carrying this reef. The claims to the north being valueless, the reef dips at over 60°. There are about 750,000 tons of ore in this reef. It is possible another reef may be found to the north, as it is uncertain whether there are one or two reefs on the property.

Crowns.

The recent rise in the above stock is due to the fact that the bore hole in Crown Deep cut the reef at nearly 200 feet below where it was expected, and this will probably give the Crown Company nearly two levels more than was anticipated. It is well that investors should understand this, as the reefs vary in their dips. This is no guide as to the life of the Crown Mine; nothing has been proved to refute the previous statements as to the life of the mine. At the present prices there is plenty of room for a fall.

Low priced Stocks.

It is probable that all these stocks will come into favour, as dividend paying mines have forged so much ahead, and there are many of those low priced stocks with a few thousands in hand and not unpayable reefs to work from. Vulcans, Palmiets, Gardner's, Bankets, Gordon's, Bohemians, and many others will all come to the front.

African Gold Recovery.

Some of the best deep levels on the Rand are held by this company, and on their holdings in claims, if they were sold, this company would be able to pay a substantial dividend, and the shares should not be dear at 30s.

CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA (LIMITED).—An extraordinary general meeting was held at Cannon-street Hotel, yesterday, Mr. Thomas Rudd (Chairman) presiding. The resolutions, as to the conversion of the capital of the company, which were passed at an extraordinary general meeting held on November 14, were put severally by the Chairman, duly seconded, and carried unanimously.

FORTHCOMING MEETINGS.

**** We shall be obliged if Secretaries or other Officials of Mining, Railway and other Companies will be good enough to advise us as early as possible of the date, time and place of their forthcoming meetings - whether statutory, semi-annual, annual, general or extraordinary, confirmatory or adjourned—in order that particulars may be announced for the benefit of our subscribers and more particularly our country readers. Balance sheets, reports and other matter to be submitted at such meetings should, where possible, accompany the intimations of the meetings sent*

Name of Company.	Date.	Nature of Meeting.	Place.	Time.
Bayley's West Gold Mining	Dec. 3	General	Winchester Ho.	12 noon
Lagunas Syndicate	Dec. 4	General	Winchester Ho.	12 noon
Queensland Smelting	Dec. 4	General	Winchester Ho.	12 noon
D. D. Block & Wyndam Co.	Dec. 4	General	Winchester Ho.	12 noon
Booysen Land and Mg. Co.	Dec. 5	General	Winchester Ho.	2 p.m.
New Welsh Slate	Dec. 5	General	Winchester Ho.	2.30 a.m.
Rand Consld. Deep Levels	Dec. 5	General	Winchester Ho.	4 p.m.
Weardale Lead Company	Dec. 6	General	Cannon Street	3 p.m.
Pahang Corporation	Dec. 6	General	Winchester Ho	2.30 p.m
Rand Consdt. Deep L. F. Co	Dec. 7	General	Winchester Ho.	12 noon
United Concessions	Dec. 7	General	Cannon Street	1.30 p.m.

HISTORY OF THE HOLMBUSH, REDMOOR, AND KELLY BRAY MINES.

SITUATED NEAR CALLINGTON, EAST CORNWALL.

By W. F. WILKINSON, F.G.S., Assoc. M Inst. C.E.

Introduction.

THESE adjoining mines, now forming one property, may well claim both on account of their age, and their mineral production, to be classed among the historic mines of Cornwall. The records of the mines go back to the last century, as some ancient and curious plans, now deposited at the Home Office, bear witness to. With regard to their mineral wealth it has been calculated that they have produced ores of copper, tin, lead, silver, and arsenic to the value of about half a million sterling. It was at these mines that experiments with pumping engines were carried out in the early days when waterworks for London and other large cities were being constructed, and doubtless the study of the Holmbush engine led to many an improvement in the use of steam. As further evidence of the importance of these mines, it may be mentioned that a large model of the workings and lodes has long been used for educational purposes at the Museum of Practical Geology, Jermyn-street, London.

Most of the information contained in the following paper is derived from the back numbers of the *The Mining Journal*, a newspaper that has always largely devoted itself to Cornish interests. From the very first number published in 1835, the paper has contained nearly every week a report of the operations at the mines.

The chronicle of events is, therefore, both complete and reliable, and is interesting, especially at the present time when Cornish mining is so depressed, as showing under what adverse circumstances a Cornish mine is sometimes worked. Before 1835 little information is obtainable; it is known, however, that the Holmbush lode had then been worked at least for 40 years, and been opened to a depth of about 60 fathoms. Probably also the Lead lode had also been considerably worked on, but the other lodes do not appear to have been touched before 1835.

The mines are situated in a district famous at the present time as the chief source of arsenic ore, which in the form of white arsenic is an important article of commerce. In former years, before the valuable uses of arsenic for agriculture and farming had been discovered, the mines of the district were large producers of lead, tin, and copper ores. At the present time, however, these minerals, on account of the fall in value, are produced only in small quantities. The other mines of importance in the district are the Devon Great Consols, Gawton, Drakewalls, and the Prince of Wales, of which only the two first mentioned are now (1894) working on any scale.

The geology of the district is simple; in the centre there is a mass of granite called Hingston Down, breaking through the Devonian strata, consisting principally of clay slate or, as it is called locally "killas." The lodes, having an east and west strike, are mostly worked in the clay slate, but have been worked in some mines in the granite.

The Holmbush group of mines lie in the west part of the district, having the granite of Kit Hill (the western end of Hingston Down) on the south-east. As yet the workings in these mines have not reached the granite, but the bottom of Johnson's shaft, on one of the south lodes productive of tin, appears to be not far off. Many reasons might be given to explain why these mines, which contain so many strong and well mineralised lodes and which have been worked to no great depth, have not been worked continuously, and why to-day they are suspended. Perhaps the most important would be:—

1. Want of capital.
2. The irregular and disjointed character of the workings in the past.
3. Want of co-operation in pumping when the mines were worked by separate companies; (fortunately this difficulty has within the last few years been removed, the mines now forming one property).
4. Want of foresight, and failure to keep up with the times.

With such adverse circumstances as these has the mine had to contend, and it will probably be admitted by all who follow its history that the mine has not as yet had a fair chance.

It is proposed in the following pages to chronicle the events at these mines in the order they occur in *The Mining Journal*. In order that they may be more easily followed, a list of the lodes and mines is first given.

The Lodes.

The mines contain six main lodes, five of which are east and west lodes, and contain copper, arsenic, and tin, and one north and south lode called the lead lode, containing silver lead and blende with fluor spar. The names of the lodes in order, beginning from the north are:—

	Dip.	Strike.
The Holmbush lode	North ..	East and West.
The Flapjack lode	North ..	East and West.
The Kelly Bray lode	South ..	East and West.
Johnson's lode	South ..	East and West.
Great South Tin lode	North ..	East and West.
The Lead lode	West ..	North & South.

The Mines.

The Holmbush Mine sett contains the Holmbush, Flapjack, and northern half of the Lead lode. The Kelly Bray Mine sett contains the Kelly Bray lode and part of the Lead lode. The Redmoor Mine sett contains Johnson's and the Great South Tin lode, and the southern part of the Lead lode. These mines, together with Kelly Bray, were formerly called the Callington Mines.

Turning, now, to the pages of *The Mining Journal* (Vol. I.), we find that in 1835 the outlook at the mines was favourable:—"Vol I., page 62, Holmbush Mine: This mine is said to be very prosperous; it is reputed that there is not a single end being driven on the course of the lode but produces copper ores of excellent quality." Redmoor Consolidated Mines: "The Lead lode continued to improve in the 10 fathom level. Wilkinson and Johnson's shafts are being sunk at a satisfactory rate."

It was in this year that Johnson's lode was first discovered: "A fine lode 2 feet wide, containing copper and tin ore in a matrix of beautiful white quartz of the most kindly character." Vol. I. p. 45. The Chairman of the Redmoor Mine at this time was Mr. P. W. Johnson of the well-known firm of Johnson and Matthey, of Hatton Garden. He appears to have taken the greatest interest, not only in this mine, but also in others in the district, many reports being signed by him. The manager appears to have been Wm. Pettierick.

The cost of pumping had always been a serious item in the mine accounts, and it is satisfactory to read that at this time "the engine is working to the admiration of every one who has seen it, and with a trifling consumption of coal." Again, "the steam-engine is working very steadily, and with upwards of 61 fathoms of pump work in two shafts, and 286 fathoms of flat rods, is only consuming 3 bushels of coal in 24 hours." (Vol. I., p. 149.) If these figures are correct the quantity of water to be raised must have been very small—probably not exceeding 10 gallons a minute. In Vol. II. we have Holmbush Mine, just mentioned, the 62 and 42 fathom levels were being worked, and "both very good." The report is signed by T. Parrott.

In Redmoor Mine reports mention is made of a tin lode 2½ feet wide north of Johnson's lode. (Vol. II., p. 229.) In Vol. III., p. 21, there is a report to shareholders for year 1835. The cost of excavating Johnson's lode was 25s. to 30s. per fathom. Vol. III., p. 145:—"The Holmbush lode 20 fathom level east of Bray's shaft is very promising." As the eastern part of the mine is nearest to the granite, it has always been hoped that tin ground will be met with in depth. Up to the present time, however, the lower workings which are down to the 80 have not been successful. The ore shoot dips to the west. Further development east may strike another arsenic and copper shoot, or tin ground in granite formation may be met with.

The next matter of interest refers to the management of the mine. A correspondent signing himself H. E. complains to the Editor of the management and asks for news. In a postcript he says: "I have great confidence in the value of the concern, but we want a proper understanding, and between ourselves, I believe that there is not the greatest confidence reposed in the managing agent by the London (or our) proprietors, and the sooner they are therefore understood, I think, the better." Vol. II., p. 211. In the introduction attention was called to the fact that the chief mineral produced in the recent years is arsenic, which occurs here in large quantities. This mineral was in the old days thrown away, but it appears that attempts were made to utilise it; for in Vol. IV., p. 2 (1837) the following note occurs:—

"Attempts to make white arsenic from mundic (*i.e.*, arsenical pyrites) have not been successful." In 1837 the agents of Holmbush Mine appear to have been Samuel Seccombe and T. Malachy, and of Redmoor Mine H. Rickard and Samuel Harper. The third annual meeting of Redmoor Consolidated Mining Company was held in 1837. The sales of lead ores for the first six months of 1837 averaged £277 per month. Holmbush Mining Company (probably a reconstruction of the older company) held in this year their first meeting, "which was numerously and highly respectably attended." The mine was being worked for copper. The main engine shaft was 86½ fathoms deep on October 30, 1837.

In this volume there is an interesting account of mining in this district in the 17th century. The Hingston Down, already referred to, is the granite hill which lies in the centre of the district and east of Redmoor Mine. There is an old proverb that "Hingston Down well wrought is worth London town dearly bought." It appears that Thos. Bushell, whose name is also known in connection with Welsh mining, sent a report to Lord Bacon recommending adits should be driven into Kit Hill to open out the lodes. "First, the true description of Hingston Down, within longitude east and west give miles, with millions of shafts, that have been visibly sunk upon several lodes of metal by the Romans, Danes, Saxons, Jews, and Britons; and is in breadth 700 fathoms at the basis lying north and south, as well as in depth 200 fathoms from the Beacon perpendicular to the centre of that adit now intended." The first reason for undertaking the work was:—"A grateful ambition to discover this nation's mineral treasure." It is probable that these adits were made, for several now exist. Redmoor shaft was 57 fathoms deep in January, 1838.

Holmbush Mine report for 1837, signed by T. Malachy is as follows:—

Ore costs....	£6985	19	7	Ore sales....	£9905	4	1
Lords' dues..	624	5	0		—		
Profit	2295	9	6		—		
	£9905	4	1		£9905	4	1

(To be continued.)

THE POSSIBILITIES OF NORTH-WEST BRITISH GUIANA.*

By GEORGE G. DIXON.

THE Colony of British Guiana has pursued for many years the mistaken policy of relying for support upon one staple industry, and her present financial position shows the result of this short-sighted course, now that that particular industry upon which she has placed her sole dependence is no longer a flourishing one. For years the sugar market has been depressed, and it is to the gold industry that the Colony now looks for support. But before any permanent benefit can be derived from this source much has to be done for its advancement. The interior of British Guiana is but little known. Only in latter years has any systematic attempt been made to find out of what this great territory is capable, and it was not until gold was reported to exist there in paying quantities that public attention was attracted thither. The pioneers of this new industry had great difficulties to contend with. They knew nothing of the interior, but believed it to be so unhealthy that none but coloured people could stand the climate. Men of this class had to be found, who would take charge of expeditions, conduct them into the interior, and work for gold. Neither the labourers, nor the men in charge of them, knew anything of the work before them. To inexperienced persons such as these was entrusted the conduct of expeditions costing from $600 to $1000.

An Early Gold Expedition.

In order to realise the tremendous odds against the success of these ventures, let us follow one of the early expeditions to the gold fields of the north-west district. To reach the workings at the foot of the first falls on the Barima River necessitated a seven days' journey in open boats propelled by paddlers. The party, consisting, we will say, of 12 men and a foreman or manager, under contract for four months, had to face unknown difficulties and dangers. Once at least during the journey the boat was damaged by striking on the sunken timber, which everywhere impeded the course of the river, causing a long delay while she was unloaded and repaired. In wet weather the stream was very strong, and in the dry season innumerable trees had to be cut through to allow of the passage of a boat. On landing, a temporary house was erected in which to store their provisions, after which the work on land commenced. Every likely creek was prospected, until a spot was found which the man in charge considered sufficiently rich to pay. Here a clearing was made, houses erected, the tools brought in and the work began.

The top soil to a depth of 4 feet had to be stripped off to expose the gold bearing gravel; toms or sluices were then set up in which to wash it. These instruments were of the most primitive kind, and as the men were ignorant of the mode of using them to the best advantage, the loss of gold was very heavy. The men in charge, having no systematic mode of working, would jump from spot to spot all over the flats, instead of working them steadily from end to end. No provision was made for the storage of water, and in the wet season their shallow pits were flooded. At the end of the four months all but one man, who was left in charge, returned to Georgetown, when a new set of labourers, and generally a new manager, had to be obtained, and the work recommenced. Under these circumstances it is difficult to understand how any of the placer workings paid, yet most of them did, and secured handsome incomes to their owners.

Improved Communication with the Gold Fields.

The Barima River has now been sufficiently cleared of fallen timber to allow of steam communication to the foot of the first falls. By the report of the Commissioner of Mines we see that there has been an increase of 1 ounce per man of gold obtained during 1892-93, as compared with 1891-92. Also, that in 1884 the gold return from the Colony was 250 ounces, valued at £1019, which amount has risen to 138,527 ounces in 1893-94, representing a value of £510,710. Up to the present, the gold industry has been practically financed with local capital. The principal work has been done in the upper portions of the creeks, where the surface soil is shallow; here nuggets have been found weighing up to 40 ounces. Very few workings in the district exceed 15 feet in depth, and no boring has yet been undertaken to prove whether there is a second gravel formation. As regards quartz, the Commissioner of Mines reports that it is very rich, many surface samples assaying 8 to 10 ounces to the ton. That such satisfactory returns of gold as those quoted above have been obtained in spite of such difficulties, speaks well for the richness of the country.

Discovery of Diamonds.

Several diamonds have been accidentally found, which have been pronounced valuable stones; and it is stated on good authority that dry diggings in all probability exist in the district where they were discovered.

Hindrances to Mining Enterprise.

The uncertainty about the interior—the *supposed* unhealthiness to its climate—the want of proper communication with the gold fields—the unsettled state of the boundaries—and the regulation prohibiting the use of raw gold as a legal tender—have all tended to discourage enterprise. A closer acquaintance with the interior is rapidly convincing the colonists that its climate is far more healthy than that of the coast. The construction of an overland route from the foot of the first falls on the Barima to above the worst rapids on the Cuyuni River, and the introduction of steam communication on that river for a distance of some 80 miles, is now seriously contemplated. This would open up a rich mining district, establish an import and export trade with Venezuela in cattle and mining stores, and be of great political importance.

Raw Gold a Legal Tender.

If raw gold were made a legal tender, provision stores would be started in the mining districts, and the labourers would settle in the neighbourhood and cultivate the soil, instead of returning to Georgetown every four months. Thus, by degrees, townships would be formed, and the cost of working for gold greatly reduced.

Conclusion.

We have seen from the foregoing what possibilities there are in store for the north-west district; but to facilitate their realisation there is one thing urgently needed, and that is the solution of the boundary question. The British Government has offered to settle the question by arbitration on certain lines, to which the Venezuelans have not at present agreed; but, if it could be made clear to them that by mutual co-operation an important trade could be opened up between the two countries to the benefit of both, might not what has failed diplomatically be accomplished commercially?

Discussion.

Mr. NEVILLE LUBBOCK said the British Government had always been ready to negotiate on the boundary question, but Venezuela claimed land on which we had had plantations since the colony came to us from the Dutch.

Colonel YOUNG, who had been out in British Guiana in search of health, had met many men interested in the gold industry, and it was the opinion of them all that so long as the boundary question remained unsettled, so long would capitalists hesitate to assist the colonists.

Mr. ROBERT TENNANT considered the British Guiana gold resources second to none in the world. He thought Mr. Dixon in enumerating the disadvantages had forgotten the advantages, viz.:—Labour, which was plentiful and cheap, costing about half it did in the Transvaal; cheap transport, carriage by water being available almost everywhere, and on the Barima there were no such difficulties as were met with on the Cuyuni—he did not believe the cost to be more than 1 cent per ton; abundance of water and fuel; and, finally, the mining laws were the most liberal of any with which he was acquainted. He did not agree with the previous speakers that the boundary question had retarded the progress of the gold industry, some of the richest alluvial washings having been carried on within 20 or 30 miles of the boundary. There were, moreover, many other districts equally rich.

Mr. H. G. SLADE concurred thoroughly with Mr. Dixon's remarks.

The CHAIRMAN (Sir Henry Barkly, G.C.M.G., K.C.B.), thought the difficulty with regard to raw gold as a legal tender might be obviated by the Government empowering their agent on the fields to advance cash to the value of 50 per cent. or 60 per cent. of the estimated value of the ore. He would like to hear from Mr. Dixon whether there was any probability of reefs being worked?

Mr. DIXON, in reply, said that the reefs were not being worked because they required the assistance of outside capital, and till the boundary question was settled that would not be forthcoming.

Votes of thanks to Mr. Dixon and Sir Henry Barkly concluded the proceedings.

* Abstract of paper read on Tuesday before the Royal Colonial Institute.

— At a meeting of the directors of the ISLE OF MAN MINING COMPANY (Limited) held on Tuesday a dividend of 1s. 6d. per share was declared payable on December 1st.

— THE CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA give notice that the transfer books will be closed for 16 days from December 1st, inclusive.

— The directors of the TOLIMA MINING COMPANY pay, on the 15th day of December proximo, a dividend of 10s. per A and B share to the shareholders as they stand on the register on the 5th proximo, being the fourth dividend of 10 per cent. (making 40 per cent.) for the year 1893.

— Payment is announced on December 7 of a dividend of 6d. per share in the BRILLIANT BLOCK GOLD MINING COMPANY.

— A dividend of 6d. per share in the MOUNT MORGAN GOLD MINING COMPANY is announced for the month of November, payable on December 1.

C. PASS & SON (Limited), BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS, ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c. and DROSS or ORES containing
TIN, COPPER, LEAD, AND ANTIMONY.

HENRY WIGGIN & CO. (Limited),
NICKEL AND COBALT REFINERS,
MAKERS OF BEST RED LEAD FOR FLINT GLASS MANUFACTURERS,
BIRMINGHAM.

H. E. BANDELL,
Frankfurt a. Main, Germany.

Representation as Agent of Foreign Houses and interests, and all business of a similar nature.
Imports and Exports on Commission.
Ten years experience in Europe and Twelve years in America.
Correspondence solicited.

PACIFIC MINING AGENCY AND TRUST COMPANY.

A Corporation organised under the Laws of the State of California.
CAPITAL STOCK, £50,000.
BOARD.
IRWIN C. STUMP (Chairman), Manager of the Estate of the late U.S. Senator Hearst.
IRVING M. SCOTT, Manager Union Iron Works.
JACOB H. NEFF, President California Miners' Association.
P. N. LILIENTHAL, Manager Anglo-California Bank (Limited).
W. F. GOAD, Vice-President, Wells, Fargo, and Co.
D. M. BURNS, Capitalist.
R. C. CHAMBERS, Manager Ontario Mine, Utah.
WILLIAM C. RALSTON, Secretary (Secretary California Miners Association).
BANKERS—The ANGLO-CALIFORNIAN BANK (Limited).
HEAD OFFICE — MILLS BUILDING, SAN FRANCISCO, CAL.

THIS COMPANY sells Mines, Mining Claims, Ditch Properties, and Water Rights ON COMMISSION, and will act as Agent and Broker for the Sale and Purchase of such Properties.
It is intended to conduct the Purchase and Sale of Mining Claims, Ditch Properties, and Water Rights on the same basis as a real estate transaction.
The Company is prohibited by its Articles of Incorporation from buying or selling on its own behalf, or except upon commission, or as agent or factor for others.
The buyer pays no fees whatever, and there is no incentive to advance the price beyond the original figures at which the price and commission have been agreed upon with the seller.
It is not intended only to negotiate the sale of an entire property but interests in such may be sold or money obtained for development work.
This Company especially solicits the business of making reports or examinations for non-resident mine owners on any of their mines in the United States, and obtaining special information as to their condition and so forth (said reports being confidential).
Those who conduct the business of the Company have had long experience in mining operations, and it is their intention to place the Company in a position to inspire the confidence of all who seek its assistance in its integrity and fair dealing.
We respectfully refer to any Bank in the City of San Francisco and to the Anglo-Californian Bank (Limited), London, as to the standing of the Board of Directors of this Company.
Descriptions of properties for sale with maps, reports and all necessary information, are left on file in the office of the Company. Abstracts of such reports with prices of mines will be furnished pon application.
California has produced £267,000,000 in gold, and is still producing £2,680,000 a year. There are thousands of claims requiring capital for development. In other Pacific Coast States and Territories there are abundant opportunities for investment in mines of gold, silver, copper, lead, coal, and so forth. Information concerning these will be furnished by this Company on application.
This Company will also furnish competent engineers, superintendents, foremen, miners, millmen, assayers and others connected with the mining industry on application, furnishing their references and so forth.—Cable Address, "CHAPIN," San Francisco.

THE BUTE WORKS SUPPLY COMPANY, CARDIFF.
Telephone: No, 45 (Post Office and National).
Telegrams: Gething, Cardiff.

WAGONS.—New to Latest Regulations, 50 with one end two Side and two Bottom Doors, Wheels with WROUGHT Bosses, large capacity (12 inches longer and 4 inches deeper than usual), ready for Lettering. New to Latest Regulations, one end and two side doors, sides and ends 3 inch red deals, all inside underframe timbers of English oak; delivery, about 15 per week, commencing forthwith. 50 End Tip 10-ton Coal Wagons to New Regulations, equal to new, prompt delivery.

LOCOMOTIVES.—One good second-hand Saddle Tank Loco. six wheels coupled, ready for instant work, and cheap for cash or three years' purchase-lease. 14 inch cylinders, by Avonside Engine Company, now near Cardiff.

RAILS.—Bridge, 14 to 120 lbs. per yard; Flange, 10 to 100 lbs. per yard; Double Head, 30 to 82 lbs. per yard; and Bull Head, 50 to 96 lbs. per yard.

SLEEPERS.—Wood, Iron, and Steel. A quantity of Metre Gauge Steel Sleepers for Sale, Cheap. 1400 new Baltic redwood sawn rectangulars, 8 feet by 8 inches by 4 inches at 1s. 3d. each net f.o.t. Cardiff.

PORTABLE RAILWAY.—£9 18s. 9d. per 100 Yards of Railway (Steel Rails, 14 lbs. per yard, and Iron Sleepers), complete.

EARTH WAGONS.—75 side tipping 30-inch gauge, STEEL wheels and STEEL axles, £5 each, f.o.t. Cardiff.

BRICKS.—Fire and building bricks, also clay.

"AUSTRALIAN GOLD FIELDS:"
A MONTHLY RECORD OF
AUSTRALIAN GOLD MINES and MINING COMPANIES,
CONTAINING
The LATEST CABLE ADVICES, MINE REPORTS, &c.
STATISTICS of OUTPUT, YIELD, & DIVIDENDS,
with MAPS and PLANS of WORKINGS.
COMPILED BY
F. G. McCUTCHEON.
Price 3d.; Post free, 3½d.; Annual Subscription (including Postage) 4s. Gold Mining Shares Bought and Sold. Latest information given to Correspondents with reference to Australian Mines.
PUBLISHED AT 5, LOTHBURY, LONDON, E.C.; and at Messrs. W. H. SMITH and SONS' Bookstalls. Orders received at all BOOKSELLERS and NEWS AGENTS.

The Mining Journal,
RAILWAY AND COMMERCIAL GAZETTE:
An Illustrated Record of Mining, Metallurgical, Railway, Financial, Industrial, and Engineering Progress.

ESTABLISHED IN 1835.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, published every SATURDAY MORNING, price SIXPENCE, is recognised throughout the World as being the oldest, most influential, and most widely circulated Journal devoted to the interests which it represents. It circulates

ALL OVER THE WORLD,

Amongst Mine Owners, Capitalists, Investors, Mining, Metallurgical, Railway and Mechanical Engineers, Railway Administrators, Manufacturers, &c., &c.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE will also be found at leading Clubs, Hotels, Exchanges, Public Reading Rooms and Libraries, and British Consulates throughout the World. It has also correspondents and sources of information in almost every quarter of the globe. Its policy is absolutely independent; its circulation is cosmopolitan; and its literary scope embraces the entire field indicated by its title.

TO CORRESPONDENTS.—Letters on Editorial Matters, or containing literary contributions should be addressed to "THE EDITOR." All matter intended for insertion must be written on *one side of the paper only*. The return of rejected manuscripts cannot be guaranteed. The Editor invites correspondence and items of news or information from readers in all parts of the World.

TO SUBSCRIBERS.—The Annual Subscription to THE MINING JOURNAL, including postage to any part of the United Kingdom, is £1 4s. Abroad, £1 8s. payable half-yearly in advance. It can be purchased at all Railway Bookstalls and Newsagents throughout the United Kingdom for 6d.

TO ADVERTISERS.—The following is an abbreviated Scale of Charges for Advertising: — Companies' Prospectuses, £12 12s per column, or £20 per page; Companies' or Legal Announcements, 9d. per line, with a Minimum charge of 7s. 6d; Sales by Auction, Publications, For Sale, Wanted, &c., &c., 3d. per line with a Minimum charge of 4s.

Displayed (Trade) Advertisements of 2 inches in depth (or more), Single Column measure, will be inserted at the following rates:—For 52 insertions 2s. 6d. per insertion for each inch in depth; for 26 insertions 3s. per insertion for each inch in depth; for 13 insertions 3s. 6d. per insertion for each inch in depth. Terms for special positions and contracts may be had on application.

*** ADVERTISEMENTS (which should in all cases be sent direct to THE MANAGER) can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 15, FINCH LANE, E.C., up till 6 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C., until 9 p.m.

*** THE MINING JOURNAL, is neither controlled, nor is any interest in it held or exercised, by any mine owner, speculator or syndicate, and it is in no way connected with any share dealing agency. The position occupied and the views expressed by it are alike absolutely independent.

Editorial and Advertisement Offices:
18, FINCH LANE, LONDON, E.C.
Telegraphic and Cablegraphic Address: "TUTWORK, LONDON."
Codes used: "A.B.C.," Moreing's, and "Universal."

CONTENTS

Of this Number of "The Mining Journal, Railway and Commercial Gazette," December 1, 1894.

NEW PATENTS ... 1313
CONTRACTS OPEN ... 1313
OUR INQUIRY COLUMN ... 1313
FURTHER EXPERIMENTS ON AMORPHOUS GOLD ... 1314
THE PROFITS OF GOLD MINING ... 1314
THE PRACTICAL OPERATION OF THE CYANIDE PROCESS, &c. ... 1315
MEETINGS OF MINING COMPANIES—
The Hampton Lands and Railway Syndicate (Limited) ... 1316
Devon Great Consols ... 1317
Anglo-French Exploration; Albion Gold; Lisbon-Berlyn ... 1318
Roodepoort; Tilt Cove; Golden Leaf; Village Main Reef ... 1319
Mexican Mineral Railway; Carn Brea; Tincroft ... 1320
The Ouro Preto Mines of Brazil ... 1321
MINING IN CORNWALL AND DEVON ... 1321
PROVINCIAL SHARE MARKETS ... 1322
MINING NOTES FROM JOHANNESBURG ... 1322
FORTHCOMING MEETINGS ... 1322
HISTORY OF THE HOLMBUSH, REDMOOR & KELLY BRAY MINES 1323
THE POSSIBILITIES OF NORTH-WEST BRITISH GUIANA ... 1323
LEADING ARTICLES—
Motive Power for Mining Machinery; Water ... 1324
Fifty Years of Devon Great Consols ... 1325
NOTES AND COMMENTS ... 1325
OUR CITY ARTICLE ... 1326
THE EDITOR'S LETTER BOX ... 1326
LATEST FROM THE MINES: Cablegrams and Telegrams ... 1327
THE METAL MARKETS—
The London Metal Market ... 1327
"THE MINING JOURNAL" SHARE LIST ... 1328-1329
REPORTS FROM THE MINES ... 1330
REVIEWS ... 1334
THE WOLHUTER GOLD MINING COMPANY (LIMITED) ... 1336
ADVERTISEMENTS—(*See Index to Trade Advertisements, p. 1310*).

LONDON: DECEMBER 1, 1894.

MOTIVE POWER FOR MINING MACHINERY: WATER.

II.

THE Pelton water-wheel, to which we have already referred, is perhaps the most efficient form of water motor for working under great heads of water, and as a consequence, under a high pressure. Roughly, the pressure in pounds per square inch is equal to half the head in feet, or more particularly to the head multiplied by .434, and the Pelton has been designed with a view to working in places where the quantity of water is small, but its pressure is great. So efficiently does it do this that with great heads of water the average power obtained is actually 88 per cent. of that theoretically possible. The wheels themselves are made of any diameter, varying from 6 inches up to 6 feet, the smaller ones being used for light machinery, and can derive their water from the service mains of a town; while the larger, which will give over 500-horse power, are used for all sorts of power purposes. We, however, have to consider them in connection with mining and milling, and for these they are almost exclusively used in the Californian Gold Mines under heads varying from 20 feet up to 1680 feet, as is the case at a mine on the Comstock lode.

The wheel is what may be termed of the tangential reaction type, the power of which is derived primarily from the pressure afforded by a head of water supplied by a line of pipe, and discharged at the buckets fixed around the circumference of the wheel, through a small nozzle, the size of which is proportioned to the amount of water available, and the head and power required. The arrangement, therefore, is of the utmost simplicity, and consists of a cast-iron wheel, mounted on a horizontal shaft. The buckets—of which there are usually 24—are of a special shape, and are secured with bolts on to the circumference of the wheel. The water issuing from the nozzle strikes the buckets in a solid stream, and falls from them practically inert. The water is controlled by means of a gate valve, and the speed and power are regulated either by opening or closing the valve to the extent required, or by diverting the nozzle vertically so as to lessen or increase the impact of the water on the buckets. For ordinary mill work the speed can be regulated by hand with the valve, as great nicety is not required; but for driving dynamos for the production of electricity a governor is required. We have known a Chinaman to act in this capacity, having in his hand a lever for deflecting the nozzle, and keeping his eye on the ammeter indicating the variation in the electric current. This, however, is but a primitive method, and has now been superseded by a mechanical contrivance which automatically adjusts the speed to the electrical requirements. The Pelton wheels are also used for hoisting and hauling purposes, in which case two of them are mounted on the same shaft, but in reversed positions as regards the buckets. Two nozzles are also necessary, and the water is turned on at the one or the other according to the direction in which it is desired that the shaft should rotate. The speed of the wheel is in all cases determined by the pressure, and in order that the greatest efficiency may be obtained they should always be geared to run at the number of revolutions determined by the makers. As an indication of the great variations in power which may be obtained, we may give as examples, a 3 feet wheel working under a head of 20 feet, and yielding 1½ horse power, and a 6 feet wheel under 500 feet head which developes 750 horse power. As we have already intimated, the water for supplying both turbines and Pelton's is brought across the country in sheet-steel pipes laid preferably underground, but in many cases left lying simply on the surface. As an example of the cost of this piping and of its erection, not including the cost of digging the ditch, but including delivery at a mine in a mountainous region 8 miles away from a station, we may quote a case which recently came under our notice, the head being 350 feet. The piping had a diameter of 11 inches, was of 14 guage with double rivetted joints, and made of sheet steel, the price being 49 cents—or, say, 2s. per foot. Another length of 475 feet of 7 inch of the same pipe cost 37½ cents per foot. The contractors agreed to deliver the whole at the ditch, lay it, and supply all necessary air valves, sluice gates, saddles, and fittings for the sum of $3100. The joints between the pipes are made by simply driving the end of one into that of the other, just like stove pipes, and the whole is coated with some non-corrosive compound. The trench was made, first of all, by running a plough a few times along the track in order to loosen the soil, and afterwards by hand labour. When rivers or deep gorges have to be crossed we have seen the line of pipe simply slung from a cable stretched from side to side of the valley, and when, after years of wear, they become corroded, the small holes thus formed are plugged with wooden pegs, until the appearance of a pipe of respectable antiquity resembles that of the back of a porcupine.

The diameter of the pipe must, of course, be calculated to take the quantity of water desired, and due allowance must be made for loss of head due to friction and sharp curves, which latter should be rigorously avoided, whether they are in a vertical or a horizontal direction. Then, also, the pipe line must be provided with sufficient pressure and vacuum safety valves, blow off or drainage valves, at the lowest points of the depressions, in order to clear the pipe of any deposit of rubbish. The sluice valves or gates immediately behind the delivery nozzle must also be made to work slowly, as the result of rapidly shutting off the water, and suddenly arresting the whole weight of it in the pipes would be most disastrous, and would probably destroy the whole line. The question is apparently a simple one, and is often left for solution to a general foreman, whose ignorance is only surpassed by his assumption of knowledge, but as a matter of fact the laying of a line of water pipes requires much preliminary calculation and consideration, in order that the greatest quantity of water may be obtained with the least amount of loss from friction or other causes, and, as a consequence, the largest possible power obtained from a given amount of water. Ditches or water races are almost indispensable in connection with water power, whether the water is to be conducted direct to the mine by their means, or whether they are employed to conduct the water to the head of the pipe line. Of these ditches there are many hundreds of miles in most mining districts, made either by independent companies from whom the water is purchased at so much per miners' inch per 24 hours, or by the mining company itself. They often attain the dimensions of a canal, and it is evident that they cannot be constructed without considerable engineering knowledge and skill. The gradient or fall per mile varies according to the nature of the ground, and is sometimes but rarely as low as 4 feet in the mile, but as a rule, varies between 8 and 16 feet. If the fall is but small, a larger ditch must be constructed in order to carry the quantity of water; and, on the other hand, when plenty of fall is available, care must be taken that the velocity of the water is not so great as to scour the material away from the sides and bottom of the ditch. As a rule, the watercourse follows the hillside as a contour line, but has often to be carried across deep gorges by means

of wooden flumes and bridgework; but these structures should be avoided as much as possible owing to the perishable nature of the material, and the heavy outlay entailed in keeping them in good repair. In other cases, instead of making a long ditch around the spur of a hill, it will be found advantageous to tunnel through it, especially if the ground is sufficiently solid to stand without timbering. If timbering is absolutely necessary, then an increased area of section must be given to the tunnel in order to compensate for the resistance offered to the flow of the water by the timbers.

The loss occasioned by the absorption of the water in the ditch, either by the porous nature of the ground or by the atmosphere during the summer months, must be allowed for in designing its carrying capacity, and here, as well as in the pipe lines, all sharp corners and variation of section must be avoided, as they choke the flow of water and materially effect the amount delivered. Overflows must also be provided to safely carry off any excess of water during flood time, and in short the whole matter must be carefully surveyed and designed as though it were a line of railway. We have dealt somewhat fully with this water question, as upon it often depends the success or failure of a mining enterprise. On a future occasion we purpose dealing with electricity as a source of motive power, as it is intimately connected with that of water, without which, indeed, as the original and generating power, electricity would be of but limited utility in mining matters.

FIFTY YEARS OF DEVON GREAT CONSOLS.

NO more fitting occasion for a survey backward over the history of an institution or a company can well be found than the celebration of its Jubilee, and when the record for the 50 years is of so unique, and in many respects so splendid, a character as that of Devon Great Consols, the satisfaction and pride of the directorate can easily be sympathised with and justified. There are peculiarly fortunate circumstances which tend to make the task of drawing upon past records a work of unusual gratification to the board of this important consolidation of mines. But a very short time seems to have elapsed since Mr. PETER WATSON succeeded to the post of managing director of the concern, with Mr. MOSES BAWDEN as purser, and yet how much has been accomplished in that time! A clean sweep has been made of an overdraft of several thousands of pounds, a modest but serviceable reserve fund has been accumulated, whilst last, and for the shareholders most important of all, the barren period has been succeeded by the regular payment of dividends, with every prospect of a continuance of them. These achievements alone are sufficient to establish an undeniable claim upon all whose interest is identified with this huge and far-reaching organisation. It is the merest justice to those who have performed the task of regenerating and revivifying the enterprise that the shareholders should cordially and unanimously support the policy they formulate. Thus the explanation of the hearty and complete concurrence of sentiment reflected in the several letters addressed to the Chairman, and strikingly apparent at every point in the proceedings of Wednesday—for the unreasoned antagonism of Mr. SLOPER merely threw into greater relief the harmony of the rest of the meeting. After the multifarious proofs in justification of the confidence reposed in the Chairman and his colleagues during their career of management, a feeling of accord has spread among the entire body of shareholders, with the exception already quoted, which manifests itself upon every occasion of meeting in a most unmistakeable manner. Any who would care to read one of the most interesting pages in the history of industrial enterprise should turn up to the report of Mr. PETER WATSON's speech, and follow for a brief moment the course events have taken with Devon Great Consols. The inception of the undertaking was mean almost to meagreness. A few hundred pounds capital, and a couple of determined miners groping in the bosom of the earth, are the conditions attending the start of a concern destined, at one point of its career, to challenge, not unreasonably, a comparison with the New River Company. For some time a severe test was put upon the racial determination of these two Cornish subterranean explorers. A weary period passed away before the discovery of the mineral; but at length the slenderest indications of copper and mundic, followed to their conclusion, led to the discovery of the vast stores of wealth which raised the company at once to such a high eminence. The brilliant culmination of the enterprise is still well within the memory of all who concern themselves in the development of our leading commercial undertakings. Then by the law of compensation came the swinging back of the pendulum to its opposite, and the period—short enough, in comparison with the preceding successes, but none the less regrettable—during which the company was struck from the Dividend-paying List. But the law of compensation works both ways, and there are abundant indications that, commencing from the epoch of the effacement of the already-mentioned overdraft, another period of prosperity has set in for Devon Great Consols. This has been highly satisfactory news, not only for the shareholders, but for the population of our Westernmost counties. A small township might easily be formed by the dependants of the company, and in consideration of all that the difference of the success or affliction of the consolidation of mines means to them, was enough to occasion an intense pleasure. There is, moreover, the consciousness that these results are merely the fitting reward for the pluck with which the management had dragged back the company into prosperity in the very teeth of obstacles, such as the low price of copper and the general depression overspreading the industry, now felt acutely enough in many districts. A determined fight of this sort appeals to the British instinct in man, and commands every one's best wishes. The prospect for the future is directly in favour of a continuance of past successes. A couple of shrewd mining men from Cornwall delivered themselves to that effect, and in judging of their remarks it should be clearly held in mind that candour is more than any other a Western virtue. When Mr. MOSES BAWDEN and Captain CLEMO express satisfaction at the appearance and indications of a property, it may, without the slightest danger of a false step being taken for granted that affairs are looking exceedingly well. Though we would gladly direct our attention from the one regrettable passage in an otherwise harmonious succession of events, Mr. SLOPER's attitude at the last and every preceding meeting challenges reprehension in so unmistakeable a manner that he could hardly hope to escape from the severest judgment. His remarks were so ill-natured, so obviously originated in a spirit of carping criticism, that the most subtle ingenuity could be exhausted in an unsuccessful attempt to discover a shred of justification for their purport or manner. We wish we could unite in the hope that Mr. SLOPER will, in gratitude for a prosperous Jubilee, consent to bury the hatchet; but his past interpositions into the course of the company's business are suggestive, and do not lend themselves to that conclusion.

NOTES AND COMMENTS.

THE recent spurt upwards in the price of the shares of the Chartered Company of South Africa shows the satisfaction with which the market has heard of the developments recently carried out in Rhodesia. From presumably authentic reports coming to hand it would seem to be hardly permissible to doubt that several rich reefs have been discovered here and there upon this latest of South African gold fields. No phenomenal figures are quoted as the production of the lately acquired ground, but in the vast majority of cases the estimates are of a sufficient magnitude to abundantly repay the discoverers for their efforts in bringing these mines into the light of day, and for the energy with which they will, no doubt, proceed to work them. All but fanatical adherents of the "Little England Party" will be glad at the good fortune which has fallen to the lot of this most important of companies. Certainly it has not come before it was deserved. The enterprise with which they have mapped out a policy at once bold and well-judged, and the vigour with which they have carried it into effect, are certainly deserving of the warmest commendation. How rapidly, and yet how effectively, the representatives of the Chartered Company have acted may be seen by the briefest of comparisons between the Buluwayo of to-day and the Buluwayo of twelve months ago. And so quickly is the township growing into all the dignity of a well-ordered municipality that, before another year has passed over us, a town worthy of comparison with some of the best at the Cape may stand where two years since Lobengula sat under the royal umbrella.

THE report of the directors of the Day Dawn Block and Wyndham Gold Mining Company is not very encouraging reading, and we are afraid that the disappointment which the shareholders will feel will find them in a rather bad humour when they assemble next week at the ordinary general meeting. At the 31st of March last year, it will be remembered, a net profit of £42,825 was shown for the year, making, with the balance brought forward, a sum available for distribution of £52,281 10s. Of this the three interim dividends paid absorbed £37,380, whilst £14,901 10s. was carried forward. Now there has been such a falling off that instead of even a minimum profit, there is a deficiency on the year's working of £5980 16s. 3d. Of course, we know that a company cannot always be making profits. In the career of the wealthiest there have been periods of barrenness and consequent loss. Even the Day Dawn Company have experienced the same misfortune. For instance, from April, 1888, until July, 1891, no dividends were paid, but from that time they again became regular until March of last year. There is no reason, therefore, why shareholders should get unduly depressed with regard to the future, notwithstanding that in the report before us the directors do not either give reasons for this falling off, or look with great confidence to the future. There is one thing the shareholders can pride themselves upon, and that is they have a board who will do their utmost, and will look after their interests by making profits where they can be made, and of distributing dividends when it is wise to do so.

THE shareholders in the Gold Fields of Mashonaland (Limited) have no doubt been rejoicing this week over the very hopeful telegram received on Monday. This announced, as is by this time generally known, that a rich body of ore had been struck on the Cotopaxi reef. Of course, the company itself will be the first to benefit by the discovery, but the importance of the find will have far more wide-reaching effects. The discovery took place in the east drive of the mine, adjoining the property of the Bechuanaland Exploration Company, at a depth of over 200 feet, where the reef is over 7 feet wide. Next, of course, to the Gold Fields of Mashonaland, the company which will benefit by the find is the Bechuanaland Exploration, which, in addition to holding over 20,000 shares in the former concern, owns a block of 13 claims on the eastern boundary of the Cotopaxi. As the British South Africa Company holds 25 per cent. of the Gold Fields of Mashonaland capital it, too, will derive considerable profit directly from this discovery. And last, but not least, Mashonaland itself will benefit, and will be more favourably viewed by the eyes of the investor and miner. Unfortunately this country has not fulfilled the hopes centred in it, and people were beginning quite to despair of it. Now, however, we shall not be surprised if the find be not exaggerated by needy miners and others.

IN spite of the further reduction in the price of lead, the Weardale Lead Company have done extremely well during the past year. Not only is it eminently satisfactory, but it is wonderful that the receipts from the sales of the metal should overtop those, by a good round sum, of the year preceding. For instance, the average price of the lead sales has been £9 9s. 7d. per ton delivered at Parkhead. This is 13s. 3d. per ton less than the exceptionally low average price of the previous year, yet the total sum received from the sales in 1893 was £31,429 10s. 1d., as against £28,089 18s. 6d. in 1892. These figures speak eloquently of the condition and progress of the mines, and forcibly emphasise the statements of the directors. They tell us that the working of the mines for the year under review has been satisfactory, and that had the lead market been maintained at even the very low price of last year a profit would have been shown. Regret, of course, will be expressed on all sides that the directors, through circumstances over which they have no control, are unable to show the profit which at the last meeting they anticipated.

A FRESH start under hopeful conditions is to be taken by the Almada and Tirito Company. The acquisition of the Guadalupe property, containing the "Europas" lode, is of itself fraught with the greatest promise. Both traditional history and more substantial records point to the conclusion that the property is one well worthy of being made the object of a vigorous policy of development, while owing to its favourable situation, operations can be conducted thereupon with the greatest facility. Already the mine has been worked, but a scarcity of capital—a rock upon which many promising ventures have hopelessly split—led to its abandonment. Beyond this latest addition to the company's sphere of operations, the mines already in possession of the company are turning out well. As the result of the most recent developments the lode has at times looked exceedingly well, and the discovery of a rich deposit upon one of the adjoining mines is an additional ground for hope. All things considered, it would seem to be more than probable that a highly prosperous future lies in front of the Almada and Tirito.

THE meeting of shareholders in the Lisbon-Berlyn Company, which was held on Wednesday, was fully justified by existing circumstances. If it is true, as the Chairman emphatically declared, that there is great dissension among the members of the board, then the sooner they resign and give place to a new directorate, who shall in the main be agreed upon the future policy, the better it will be for all concerned. This company has experienced a very eventful and a by no means conspicuously successful career. The shareholders, who have been waiting patiently for many years for what they have not yet received, are not in an enviable position. We would counsel them to throw in their lot with the committee, who have been appointed as the result of the meeting. To the directors we would likewise appeal, if they are unable to agree amongst themselves, to resign gracefully, and to give up their charge to a newly-elected body. They have only themselves to blame if, at the present time, they are not regarded with much affection by the shareholders, and the only way they can hope to allay the storm they have raised is to comply with the wishes of those who have so much at stake.

THE gathering rush of business now upon us is a striking earnest of what is to come towards the close of the year. Stockbrokers have by no means been allowed a monopoly of the late commercial effervescence; the welcome activity has permeated all sections of the industrial world. Company promoters are looking perplexedly at their plethoric appointment books, while company directors turn their thoughts for a brief moment from the schemes of consolidation simmering in the brain to an attempt to fit in contemporaneous appointments, so as to bring them all within the scope of personal attention. But all this is a mere bagatelle compared with what is to follow, and long before Christmas has come affairs will have multiplied themselves to a bewildering extent. It is pleasant to look back from this position of greater advantage to times when the outlook was darkness itself, and when all in the City were peering eagerly ahead to catch the faintest glimmer of the approaching illumination. But this has merely an historical interest, and for the present we should be mainly concerned in turning the present opportunities to their largest possible account.

THERE is no such thing as restfulness in South America, and the comparatively little known of the mineral and other resources of the country, and the troubles which not unfrequently overtake companies formed to work the great natural riches of these vast territories, find an easy explanation in the want of stability associated with the governments of the many Republics scattered about between Cape Horn and Mexico. There seems positively no tiring out of the revolutionary spirit which has been engendered by the curious admixture of bloods peopling Brasil, Peru, and Chili. Under these circumstances, it could hardly be expected that the British capitalist should concentrate thither anything like the amount of attention and favour with which he would no doubt regard these countries had he the prospect of working quietly and peaceably at their development. Occasionally more or less scanty reports come to hand of gold at Tierra Del Fuego, and of rich deposits of marble in an easily workable district further north, but the dangers of utter ruin from a sudden subversion of orderly being, and from a genial little visit from a band of gentry engaged in the amiable pursuit of guerrilla pillaging is sufficient to damp the commercial ardour of the most enthusiastic admirers of South Western originality of character. There is nothing for it but to await the effect of Time's soothing influences.

THE sudden death, from heart disease, of Lord Swansea, has removed from our midst a prominent miner who was at the same time a distinguished politician. For many years he had been at the head of the large copper works at Truro, trading under the name of the Cornish Metal Company, but subse-

quently removed to Swansea, where the operations developed on such an extensive scale that £200,000 a year was regularly paid in wages in connection with them. It will easily be understood that so vast an enterprise as this must have worked great benefit to a neighbourhood which, like Swansea, has an almost exclusively commercial population. The popularity of the deceased peer was undeniable, and manifested itself in the movement which eventually culminated in the erection of a statue of the distinguished member of the Upper House in one of the main streets of the town. Up to the time of his death Lord Swansea continued to take a keen interest in everything pertaining to the mining industry. He had, in fact, but a very few days ago returned from Canada, where he had been to inspect a mining property. Now he is with us no longer, and the industrial world has lost one of its prominent workers that it can ill afford to be without.

OUR CITY ARTICLE.

FRIDAY EVENING.

THE MINING MARKET.

Markets open firm.—A huge settlement.—Brokers harrassed by business.—Chartered continue to improve.—West Australians rally.—A good close all round.

THE past has been a highly favourable week all round the markets, business having been large in volume and satisfactory in character. There was no appreciable diminution in the volume of business transacted at the reopening of the Mining Markets on Monday, despite the near approach of settling day. Buying, both public and operative, was continued upon the grand scale, and the outlook for the account and for subsequent markets was a decidedly cheerful one. Rises were very general in the South African section, and West Australians were certainly steadier in contrast to Indians, and other miscellaneous descriptions, certainly much flatter. The carry-over was a big business, and the crowding of operators in the South African Market was so great as seriously to retard matters. Contango rates were high, but not unduly so. For South African shares the rate was about 6 or 7 per cent. Among the considerable rises which have taken place were those of Orion £2, Gold Fields Deep 1½, Langlaagte Royal 1 1/16, Worcester ⅛, Exploring ⅜, Consolidated Gold Fields ⅛, Bechs. over ⅜, Durbans 3/16, Glencairns ⅝, Kimberley-Roodepoort ⅝, Kleinfontein ⅛, Johannesburg Investment 1/16, Van Ryn ⅜, and Jagers ⅝. Buying in both markets recommenced briskly after the settlement was in a fair way of conclusion. A steadier but still highly favourable tone ruled in the Kaffir Market, and some of the rises recently in progress were continued. A livelier tone prevailed also in the Miscellaneous Market, and the number of shares taken up was considerable. The progress of the settlement interfered, on Wednesday, to a greater extent than on the preceding day with business. The volume of affairs was so great that on every hand additional assistance had to be invoked. The feature of the day, however, was the improvement in West Australian shares, which was most marked. The Miscellaneous Market, also, was characterised by great activity, and most of the smaller South African shares simmered away with great liveliness. There was absolutely no diminution in the lively state of affairs in the markets on Thursday. Stockbrokers had their hands so full of business that accounts come to hand of frequent all night sittings. Fresh dealings were again somewhat restricted on account of the conclusion of the settlement, but in both sections of the market a firm current was manifest. No great changes occurred amongst Rand shares; but in the Miscellaneous Market there was a continuance of the better tone already noted. Thus, at the conclusion of the market, affairs are looking extremely favourable all round, and justify the best hopes for the future..

British Mines.

The downward tendency of the Cornish Tin Market having been apparently arrested, shares generally are a trifle firmer and there has been some disposition to buy some of the low price shares, but as a rule holders have been shy, especially in those mines making only small calls. Carn Brea and Tincroft meetings were considered satisfactory, the loss in each instance being about what was expected. Dolcoath are about 51 tons. At the moment there is only a small business doing in shares and most of the quotations are nominal. Risen: East Pool, 5s.; South Crofty, 7s. 6d.; West Frances, 2s. 6d.; Wheal Kitty, 1s. Fallen: Tincroft, 5s.; Wheal Grenville, 10s. Calls of 10s. have been made by Carn Brea and Wheal Agar.

South African Shares.

Monday's business in the South African Market was fully equal in extent to the operations in progress on Saturday. Rises occurred all along the line, a large number of them being considerable in extent. Among the larger gains Heriots went to 7 1/16, Champ d'Or to 3⅛, Rietfonteins to 3 7/16, Orions to 5¼, Metropolitans to 1⅛, Rand Mines reviving to 18, and Modders to 6 1/16. In addition, Chimes were 10s. better on the day at 3½. Crown Reefs were also bought and rose to 9½; Durbans improved to 6 7/16, Salisburys to 3 7/16, Wemmers to 5 1/16, and Worcesters to 4½. An idea of amalgamating Worcester, Wemmer, and Ferreira in one concern is responsible for the rise in the last-mentioned shares. A similar rumour sent up Salisburys. Rises also took place in Consolidated Deep, George Goch, Langlaagte Estate, Primrose, Nigel, Paarl Central, Robinson, and Stanhope. Slight reactions are shown by City and Suburban, Bantjes, Gold Fields Deep, Roodepoort Deep, and Afrikander. Sutherland Reefs were also bought, and rose to 19s. The rally in Chartered continued, and the shares left off at 43s. 6d. Other similar shares—Exploring, Frank Johnson, and Zambesia—sympathetically hardened. Diamonds were hardly so favourably disposed, De Beers being easier, and Jagers very dull. The settlement in a fair way for conclusion, operations for the new account recommenced. Orions continued on the upward movement, a further advance of 1/16 raising them to 5⅛. Champ d'Or were quoted at 3½. There were also improvements in Bantjes, Crown Reef, Croesus, Glencairn, Gold Fields Deep, Nigel, Primrose, Simmer, Stanhope, United Roodepoort, Wemmer, Worcester, and others. Among those which relapsed were East Randa, Chimes, Henry Nourse, Heriot, Langlaagte Royal, Modderfontein, Pioneer, Robinson, Salisbury, Village Main Reef, and Wolhuter. Chartered opened strong at 44s., but closed at 42s. 9d. Bechs. underwent the same vicissitudes, and eventually closed at 9 1/16. Operations for the new account were somewhat restricted on Wednesday owing to the volume of business arising in connection with the settlement. In the Witwatersrand section rises were shown by Henry Nourse, Princess, Robinson, and Wolhuter, and Transvaal Gold and Sheba were also better. Trifling losses occurred in City and Suburban, Crown Reef, Geldenhuis Estate and Deep, Glencairn, Gold Fields Deep, Heriot, Langlaagte Royal, Meyer and Charlton, Modderfontein, Primrose, Rand Mines, Village, Wemmer, Salisbury, Rietfontein, and a few others. Diamond shares were firmer, De Beers having risen to 18 3/16 and Jagers to 17 1/16. Chartered continued to be active and buoyant, and close 44s. bid, carrying up several of the other shares in the Land Market. Business was still transacted on the large scale in the South African Market on Thursday. Among Rand shares Simmers, Geldenhuis Estate, Jumpers, and Primroses were favourably disposed, and Crowns, Glencairns, Kimberley-Roodepoort, Kleinfontein, Langlaagte, Rand Mines, and Wemmers were also strong. Worcesters, Chimes, Robinsons, Roodepoort Deeps, Consolidated Deeps, and one or two more reacted to an insignificant extent. Land shares were unusually lively. Chartered were buoyant, but reacted to 43s. 9d. on profit taking. Oceanas were quoted at 2 7/16, while Mozambiques advanced to 21s. In the Diamond section De Beers and Jagers exhibited no movement.

No abatement has occurred to-day in the activity of this market, the smaller Land shares, such as Balkis, Esterling, Klerksdorp, and Lisbon-Berlyn, being especially buoyant. At the close there is a small reaction owing to profit snatching, but it is not at all likely to be permanent.

Risen: African Consolidated Land, 1s. 6d.; Agnes, 1s.; Aurora, 6d.; Balkis Eersteling, 9d.; Balkis Land, 1s. 9d.; Bantjes, 7s.; Barrett, 2s.; Bechs., 3s. 6d.; Champ d'Or, 5s.; Champ d'Or Deep, 6d.; Chartered, 3s.; Consolidated Deep, 5s.; Consolidated Gold Fields (allowing dividend), 1s. 9d.; City and Suburban, 2s. 6d.; Crown, 2s. 6d.; De Beers, 7s. 6d.; Durban, 5s.; Exploring, 20s.; Frank Johnson, 2s. 6d.; Geldenhuis Deep, 2s. 6d.; Gordon, 6d.; Graskop, 3d.; Guy Fawkes, 1s. 9d.; Harmony, 2s. 6d.; Henry Nourse, 2s. 6d.; Heriot, 10s.; Johannesburg Investment, 1s. 3d.; Johannesburg Transvaal, 1s.; Jumpers, 17s. 6d.; Klerksdorp, 3d.; Kleinfontein, 5s.; Langlaagte Royal, 3s. 9d.; Lisbon, 2s. 9d.; Main Reef, 6d.; Metropolitan, 2s. 6d.; Moodie's, 9s. 6d.; Mozambique, 1s. 6d.; New Belgium, 6d.; New Chimes, 5s.; New Croesus, 3s. 9d.; New Jagersfontein, 7s. 6d.; New Virginia, 3d.; Nigel, 2s. 6d.; Oceana, 7s. 6d.; Ophir, 1s. 6d.; Paarl, 1s.; Pigg's Peak, 3s. 6d.; Princess, 1s. 3d.; Rand Mines, 5s.; Read's Drift, 1s. 3d.; Roodepoort Kimberley, 4s.; Salisbury, 5s.; Sheba, 6d.; Simmer, 17s. 6d.; Silati, 3s.; Spitzkop, 2s.; St. Augustine, 6d.; Stanhope (allowing dividend), 2s. 6d.; South African Gold Trust, 7s. 6d.; South African Finance, 1s. 6d.; Southern Land, 1s.; Sutherland Reef, 6d.; Transvaal Estate, 1s. 6d.; Transvaal Exploration, 5s.; United Roodepoort, 2s. 6d.; Van Ryn, 1s. 3d.; Village Main Reef, 7s. 6d.; Wemmer, 2s. 6d.; Willoughby, 5s.; Wolhuter, 2s. 6d.; Worcester (allowing dividend), 7s.; Zambesia, 5s.—Fallen. Afrikander, 1s. 3d. Aurora West, 6d.; Booysen Land, 2s. 6d.; East Rand, 3s.; Gold Fields Deep, 1s. 3d.; Grahamstown, 6d.; Meyer and Charlton, 2s. 6d.; Modderfontein, 10s.; Randfontein, 6d.; Spez Bona, 1s. 6d.; Witwatersrand (Knight's), 1s. 3d.

Miscellaneous Shares.

West Australian shares were rather steadier at the commencement of the week. Hampton Plains and Londonderry were in greater favour. Great Boulders, West Australian Concessions, and Exploring were rather easier; Broken Hill Proprietary fell 6d. to 41s., Aladdin 1/16 to 1⅛, and Victory 6d. to 6s. Elsewhere Ooregum Ordinary and Preference, Mysore Gold Field, Mysore West, and Mysore-Wynaad relapsed slightly. Fortuna fell ⅛ to 1⅛, Guston 1/16 to ⅝, and St. John del Rey 6d. to 26s. 6d. De Lamar gained 6d. to 26s, and Rio Tinto recovered 1/16 to 15⅛. There were rather more dealings in West Australian shares on Tuesday. Hampton Lands gained ⅛ to 3 1/16, and Hampton Plains and Mount Morgan both slightly improved. Aladdin rose to 1 3/16. Wentworth Priority left off at 14s. 6d.; while the Ordinary shares kept firm. Broken Hill Proprietary rose 6d. to 41s. 6d. Champion Reef and Ooregum Ordinary also slightly improved. Rio Tinto lost 1/16 to 14 15/16. One of the principal features in Wednesday's markets was the rally in the West Australian Market. Hampton Lands, Mining, Gold Fields, White Feather, and Hampton Plains were all considerably better. West Australian Gold Concessions and Golconda were also harder at 1⅝ and 1 1/16. Great Boulder fully paid rose 1/16 to ⅜, while Bayley's Reward hardened to 16s. 9d. Elsewhere Nundydroog lost 1/16, and Kangarilla advanced 6d. The improvement noted on the previous day in West Australian shares was fully continued on Thursday. Hampton Lands closed at 2⅜ bid, Exploration at 1½ bid were rather firmer, and Bayley's Reward were dealt in at 17s. 6d., a rise of 1s. 4d. Mawson's Reward closed at 20s., West Australian Gold Fields were up to 3 3/16, Golconda hardened to 1 1/16 bid, Great Boulder fully paid were 1s. higher at 8s. 6d., and Kinsella left off at ¾ buyers. In the other sections of the Miscellaneous Market there was little doing.

The improvement noticed earlier in the week in the Miscellaneous section has been again manifest throughout to-day. Most of the leading shares have taken a small jump. There was a small reaction towards the close, but of no important character.

Risen:—Argentine Concessions, 6d; Brilliant, 6d.; Brilliant Block, 2s. 6d.; Callao Bis, 3d.; Day Dawn, 3d.; Day Dawn P.C., 3d.; De Lamar, 6d.; Eaglehawk, 1s. 6d.; Glenrock, 3d.; Jay Hawk, 1s. 6d.; Kangarilla, 1s. 3d.; La Plata, 10½d.; Mason, 5s. 6d.; Mill's Day Dawn (allowing dividend), 6d.; Mount Morgan, 1s. 3d.; Mysore Reefs, 1s.; Mysore Wynaad, 1s.; Nundydroog, 1s. 3d.; Sierra Buttes, 1s.; Springdale, 3d.; Tolima A., 5s.; Tharsis, 7s. 6d.; Victory, 6d.; Waihi, 25s.; Wentworth Priority, 1s. Fallen:—Aladdins, 1s. 3d.; Alaska, 7s. 6d.; American Belle, 3d.; Baker's Creek, 1s. 3d; Balaghat, 6d.; Broken Hill Proprietary (allowing dividend), 3d.; East Kootenay, 6d.; Golden Feather, 6d.; Holcomb, 3d.; Kapanga, 6d.; Macate, 3d.; Montana, 6d.; Mysore, 1s. 3d.; New Guston, 2s. 6d.; Poorman, 3d.; Plumas, 1s. 3d.; Rio Tinto, 6s. 3d.; St. John del Rey, 1s. 6d.; South-East Mysore, 3d.; West Argentine, 3d.

Australian.

Risen:—Bayley's, 6d.; Golconda, 1s. 3d.; Hampton Plains, 5s.; Mawson's, 1s. 3d.; West Australian Gold Fields, 7s. 6d.; West Mallina, 3d.; White Feather, 5s. Fallen:—Austin, 1s. 3d.; Hampton Lands, 2s. 6d.; Kinsella, 1s. 3d.; London and West Australian Exploration, 1s. 3d.

NORTH OF ENGLAND INSTITUTE OF MINING AND MECHANICAL ENGINEERS.—A general meeting of the members of this Institution will be held in the Wood Memorial Hall, Newcastle-upon-Tyne, on December 8th. An address will be delivered by the President (Mr. Thomas Douglas). The following paper will be read:—"The Cost of Electric Transmission of Power." By Alexander Siemens, President of the Institute of Electrical Engineers. The following papers will be open for discussion:—"Report of the Proceedings of the Flameless Explosives Committee, Part I." "Magnetic Declination and its Variations." By Prof. H. Stroud. [*Trans. Fed. Inst.*, vol., vii., page 268.] "Miss-fires." By Mr. J. D. Kendall. [*Trans. Fed. Inst.*, vol. vii., page 605.]

— Coupon No. 34 of the Ten per Cent. Second Mortgage Debentures of the PENTARENA UNITED GOLD MINING COMPANY (LIMITED), due on the 1st December, will be paid on presentation at the office on or after that date.

THE EDITOR'S LETTER BOX.

*** We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

EXPLOSIVES FOR MINING PURPOSES.

THE RECENT EXPERIMENT AT MESSRS. PEARSON AND KNOWLES.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Your contemporary, the *Practical Engineer*, has, by inserting a leader hostile to Westphalite, been unwittingly made the scapegoat of a letter from the secretary of the Roburite Explosives Company, which appeared in that paper as well as your own, and by accepting too readily the mis-statement of the analytical chemist of that company with regard to the qualities of Westphalite.

I have the original documents in my possession, which prove conclusively Mr. Krohn's misquotation of them. It is monstrous to suggest or doubt the report signed by Messrs. Matthews, H.M. Inspector of Mines, R. Isherwood, J.P., miners' agent, and J. Burrows, of Messrs. Fletcher, Burrows, and Co., who in the public interest superintended the experiments at these collieries on October 24, when Westphalite undoubtedly proved to be the safest for use in coal blasting.

From the result of experiments which I have since conducted in the presence of other managers connected with collieries, I am perfectly satisfied that either a No. 6, 7, 8, 9, or 10 detonator will completely detonate and explode Westphalite, and without igniting a highly inflammable mixture of coal dust and fire damp, when fired under the severe conditions of an untamped shot.

The Westphalite that I have experimented with has been in our magazine about two months, and it is in excellent condition and perfectly dry, the experiments we made underground being very satisfactory.

However, I learn the Roburite Company have acknowledged, through Mr. J. House, that their explosive will ignite coal dust and gas when fired in an untamped state. I need not point out the frequent occurrence of firing untamped shots in the pit from carelessness or misadventure, and I feel confident that all colliery managers will welcome any explosive that will not ignite gas when fired under such conditions, as the danger arising from shot firing must necessarily be reduced to a minimum with such an explosive as Westphalite.

From the extract of a pamphlet of the Federated Institution of Mining Engineers, being a reprint of the report of the French Commission on the use of explosives in the presence of fire-damp in mines, page 143, Roburite has been proved to produce flame with tamping, particulars of which are as follows:—

Experiments at Anzin on the flame produced by explosives.

Roburite, 3247 grains (under 11 ounces), length of stemming 7·87.

Result.—Flame.

I am not interested in any explosives company, but as manager of extensive collieries it is my duty to use that explosive which offers the greatest safety combined with efficiency. I have had the advantages of the most perfect experimental station for testing explosives hitherto erected in this country, and having due regard to weights and quantities as they are used in the pit, I am compelled to admit that Westphalite has never failed under the most stringent conditions when fired by any of the detonators previously mentioned, whilst Roburite, under similar and more favourable conditions, has invariably ignited and exploded coal dust, and mixtures of coal dust and gas, producing flame from 30 to 50 feet long.—I am, Sir, yours faithfully,

JOHN KNOWLES.
The Pearson and Knowles Coal and Iron Co. (Limited), Ince, Wigan.

November 24, 1894.

CORNISH MINING.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—No one for a moment denies that the dollar has in the Straits Settlements, like the rupee in India, come down in value 45 or 50 per cent.

However, I am not of opinion that is the principal factor relative to the great production of tin in the Straits and the low price of metal. Depreciated as the silver dollar is, I think you will find—taking the years 1855, 1856, 1857, and 1858—the coolie labour was little over 10s. a month, with a few pounds of rice per week, and you may take it for granted the wages then paid for native labour in the Straits was considerably less than what is paid now, taking the dollar at its present reduced value.

Tin ore during three years, from 1855 to 1858, averaged over £70 paid to the Cornish mines. I think more rapid treatment of the alluvial tin in the Straits, and the decreasing value of the ore, has forced the production. This, together with bad trade in America, a lull in South Africa and the Continent, with South America, all requiring less tin plate, are the main factors of reducing the price of tin.

The forced production of Straits tin would appear to have already told on their resources. I make this statement from the fact of less being shipped from these settlements. Surely if they can raise tin and sell it at a profit at £50 or £54 a ton, they would neither reduce their output nor keep it in stock, when the open market buys it up at £62 a ton.

I believe the Straits Settlements are raising all the tin they possibly can, as they have always done. The great purchasers of tin metal look beyond the cloud yet hanging over the commercial world, and know the day will shortly break when a good demand for tin will increase its value to what it has always reached when the trade of the world assumes normal proportions.

Long before the dollar depreciated Cornish mines had to sell their tin ore for £33 to £35 a ton; we were then told the price would never rise again; that the Straits could send home such quantities of tin that all the mines of Cornwall would stop. I have sold hundreds of tons of tin ore under £40 a ton, but when trade has improved, and tin ore has again assumed a paying price for Cornish mines, this will come again, and brighter days for Cornish mines, miners, and

SHAREHOLDERS.

November 24, 1894.

DON PEDRO GOLD MINING COMPANY.

TO THE EDITOR OF "THE MINING JOURNAL."

Sir,—As no answer has as yet been forthcoming from Mr. Henry Tolputt nor from Sir Frederick Dixon Dixon-Hartland to the charges made against them by Mr. Nicholas Holman, I think it is only just towards those gentlemen not to draw a hasty conclusion, but to give them a fair opportunity to meet the serious charges of making misleading statements, mutilating reports received from the mine, and thus withholding certain

information from the shareholders, to which they had a perfect right.

Every shareholder is a partner in the business, and is entitled to receive truthful and full information.

Allow me, Sir, to submit the following questions to Mr. Henry Tolputt and Sir Frederick Dixon Dixon-Hartland:—

1. Did you know, prior to Captain Jeffery going back to the mine, that the shaft was in a bad state?

2. Did you know that the bad state of the shaft was the result of "Captain Jeffrey's defective work?"

3. As Mr. N. Holman was responsible for the treatment of the mineral, will you give any proof to show that there had "been considerable negligence in the treatment of the gold?"

4. Is it a fact, "that there were absolutely no tailings lying about the wash-house or elsewhere?"

5. Has the 700 or 800 tons of mineral left on the dump by Mr. Holman been treated by Captain Jeffrey?

6. Is there the slightest evidence that gold was left in the flumes during the night, or that any has been stolen?

These are plain questions which either Mr. Tolput or Sir Frederick Dixon Dixon-Hartland can easily answer if they are innocent of the charges laid against them. Should they be unable to answer the questions, and thus clear themselves of the imputations, the shareholders will then draw their own conclusions as to the veracity of their statements.—Yours truly,

November 27th, 1894. A SHAREHOLDER.

THE ARGENTELLA MINES, LIMITED.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—In the report of this company's meeting, published in your issue of the 24th inst., you state that the proposed new company will have a capital of £270,000 in 270,000 shares, credited with 17s. paid. This is incorrect—it should be £150,000 in 150,000 shares, credited with 17s. paid, as stated by the Chairman. Will you please mention this in your next issue.—Yours, faithfully, S. C. WHITTLE, Secretary.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ALADDIN'S LAMP.—The following cablegram has been received from the mine:—"During the last four weeks we have crushed 389 tons of ore, yielding 1200 ounces of gold. A winze is being put down near the boundary, which shows that the ore continues in the Aladdin's Lamp property. The winze No. 2 is now 90 feet below the 500 feet level."

ALASKA TREADWELL (Exploration).—Cablegrams from Alaska announce the October and November clean ups as follows:—"Shipment of bullion, $49,439 October, $39,634 Nov. Tons of ore milled, 20,382 October, 21,922 November. Tons of sulphurets treated, 355 October, 360 November. Of bullion there came from sulphurets, $14,437 October, $13,366 November. Estimated gross expenses for these periods have not yet been ascertained."

BALAGHAT MYSORE.—The directors have received a cablegram from the superintendent, reporting the breakage of the spur-wheel of the pumping engine at Ogle's shaft, and that efforts are being made to prevent the water rising.

BAYLEY'S REWARD CLAIM.—The following cable, dated 28th inst., has been received from Melbourne by this company's London office:—"Week's run, 700 ounces 104 tons."

BRILLIANT CENTRAL.—295 tons 578 ounces.

BRILLIANT ST. GEORGE.—Crushed 627 tons for 1425 ounces gold. Dividend 6d. per share, and have carried over £5000, which amount is equivalent to another 8d. per share.

BROKEN HILL PROPRIETARY.—For the week ended the 22nd inst. 10,159 tons of ore were treated, yielding 970 tons of lead, containing 241,169 ounces silver; also 1258 tons treated by amalgamating and leaching plants, producing 19,244 ounces silver.

EAGLEHAWK CONSOLIDATED.—The following cablegram has been received from the mine, dated Maldon, Nov. 26:—"Have struck reef at depth of 820 feet. Have commenced driving south."

EL CALLAO.—Messrs. Baring Brothers and Co. have received the following telegram:—"401-425 ounces of gold produced by El Callao Mine for past month, and 1601-1625 ounces by the Colombia Mine. There is a strike of workmen."

EMERALD REWARD.—A telegram has been received from the mine to the following effect:—"Mine is looking well; full report is sent by mail.—Crushings. 32 tons, 116 ounces, surface."

FLAGSTAFF.—Advices have been received from Captain Edwards, reporting sale of ore, realising $3162. 150 tons extracted from new find in 7th level. Ore still being taken out, and sent to market.

ELKHORN.—Bullion produced in the mill for the week ending November 24, 9000 ounces.

GOLDEN FEATHER CHANNEL.—Cablegram received November 19:—"Works very nearly completed. Gravels pan rich." Cablegram received November 26:—"Works closed for the winter, in perfect order."

GOLD FIELDS OF MASHONALAND.—The following cablegram has been received from the manager at the Cotopaxi Mine:—"Struck a rich body of ore, east drive."

HAMPTON PLAINS ESTATE.—The directors have ordered a complete set of diamond rock-boring apparatus from the Aqueous Works and Diamond Rock-boring Company (Limited), the well-known firm of mineral prospectors and artesian well borers. The boring machine will be a powerful one, designed to put down borings to a depth of 1500 feet, or deeper if required, and the plant will be dispatched in the course of a few weeks.

JACKSON GOLD FIELDS.—The company has received the following cablegram from Jackson, dated November 23, referring to the action brought at Jackson to recover possession of the Amador property:—"Forcible entry suit, decision in our favour. Damages, $450."

JAY HAWK AND LONE PINE CONSOLIDATED.—The directors have received the following telegram from the manager:—"During the week we have crushed 140 tons, yielding 2900 ounces silver. We have struck the ore body in the 17th level, 2 feet in width. Assay value, 35 ounces."

JOHANNESBURG PIONEER.—Output for October, 947 ounces of gold.

KANGARILLA.—The directors have received a cablegram from the mine, giving the following results of sinking for the whole of each three weeks:—"For week ending November 3. 50 ounces silver, 8 dwts. gold, 19½ per cent. zinc.—For week ending November 10. 60 to 65 ounces silver, 4 dwts. gold, 28 per cent. zinc.—For week ending November 17. 35 to 40 ounces silver. Assay unfinished. One sample showed 75 to 80 ounces silver, 6 dwts. gold, and 9 per cent. zinc. Water level not yet reached."

LAKE VIEW AND No. 1 NORTH GLANMIRE.—Mr. Samuel James, of 3, Copthall Chambers, E.C., has received the following cablegrams, dated respectively Adelaide and Gympie, 28th inst.:—"Lake view. Crushed 103 tons, yielding 166 ounces gold."—"1 North Glanmire. Crushed 658 tons, yielding 1324 ounces of gold. Dividend declared, 2s. 6d. per share."

MILL'S DAY DAWN UNITED.—Crushed during the fortnight 1854 tons of quartz for a yield of 2387 ounces of gold. The approximate value of this return is £8200.

MOSMAN.—The manager at Charters Towers cables:—"Have crushed 197 tons of quartz from the North Australian shaft for 200 ounces of gold. Have shipped bullion by the s.s. *Mombassa*. I am now crushing stone from the Wyndham shaft." The approximate value of this return is £690.

MOUNT LEYSHON.—The following cablegram, dated 27th inst., gives the fortnightly crushing:—"1600 tons crushed, 297 ounces gold; 35 stamps out of 40 ran 12 days; profit, £380."

MOUNT MORGAN.—The directors have received the following telegram from the head office, Rockhampton:—"We pay £25,000 on December 1, being dividend of 6d. per share (free of dividend tax) for the month of November."

MOUNT LYELL.—The following cablegram has been received by the London committee:—"Highly satisfactory meeting of shareholders held to-day. Cash and surplus £64,000. First section line bar rock to about incline, 4 miles 32 chains let; price, including rails, £25,400. Chairman has just returned from mine and reports works proceeding satisfactorily." Further advice has also been received that the services of Mr. Robert Sticht, of Butte City, Montana, have been secured as chief metallurgist. Meantime all preliminary work in connection with the smelters is being carried on under the supervision of Mr. H. H. Schlapp, late chief metallurgist of the Broken Hill Proprietary Company.

NEW QUEEN.—The following cablegram, dated Charters Towers, 24th inst., gives the result of the crushing for the past fortnight:—"No. 1 formation, 210 tons, yielding 215 ounces gold. First week's crushing, inferior quality; we are now crushing better ore. Shipped per s.s. *Mombassa* 532 ounces."

NEW ST. AUGUSTINE.—The following cablegram has been received from Kimberley:—"Just commenced yellow; found very fine 5½ carat diamond, value £27 10s."

No. 7 NORTH-EAST QUEEN.—The following cablegram has been received, giving the result of crushing for past fortnight, dated Charters Towers:—"During the fortnight Perry and party have continued stoping over the intermediate level on a reef varying from 6 inches to 2 feet in thickness of good mineral stone for a distance of 18 feet along the face of the stopes. Goninon and party have continued stoping over the No. 4 eastern level; the reef here is bunchy—from 3 to 15 inches in thickness, and some parts of the stopes are blank. Total amount of stone raised during the fortnight 34 tons."

QUEEN CENTRAL.—Crushed 508 tons for 577 ounces.

SPRINGDALE.—A cablegram received from the secretary at Denver, announces:—"Amalgamation of claims; capital not increased." This refers to the acquisition by the Springdale Gold Mining and Milling Company of eight claims in the neighbourhood, and situated in Pine Creek.

TRUE BLUE BLOCK.—Mr. Samuel James, of 3, Copthall Chambers, E.C., has received the following cablegram, dated Croydon, 22nd inst.:—"True Blue Block crushed 480 tons, yielding 1218 ounces of gold; dividend declared 3d. per share."

VICTORY.—Elmslie (Limited), 8, Wool Exchange, are advised:—"Victory (local syndicate), adjoining Lady Isabelle 2 and 3 south, has cut reef in cross cut 6 feet from 180 feet straight shaft. Favourable effect on adjacent properties."

VICTORY (Charters Towers).—The London office has received the following cablegram from the company's head office in Sydney:—"Crushing (for the fortnight) from No. 1 shaft 90 tons for 378 ounces. Clarke's Brilliant and Worcester shaft, 155 tons for 140 ounces. Total, 245 tons for 518 ounces of gold In No. 2 shaft, No. 7 east level reef has opened out to 18 inches fair quality.

PUNJOM.—Mining. August shaft, 200 feet level, No. 1 east. Work here was discontinued early in the month, and the men put on to points of greater importance just now. The ground in the face is without change to notice. Distance driven 8 feet, making it 36 feet from the main crosscut.—No. 2 east. This level has been extended 32 feet, making its total length from the main crosscut 75 feet. At 49 feet a complete change of ground was met with, the quartz we have been driving on being completely cut off by what appears to be the black dyke seen in the 110 feet level; water is issuing from it very freely. A little gold can be got by washing the ore found immediately adjoining the contact, but nothing payable has yet been met with. I am inclined to think that the last quartz passing through is the north and south reef, and to prove this a level has been commenced to go south on it. Of course, if it is not the north and south reef we shall soon reach the footwall of the east and west reef; a few days will prove this. The face of the drive going east is still in dyke-like formation. It will be continued until the main east country rock is met with so as to thoroughly test the ground at this point. A crosscut has been put out to the footwall of the east and west reef at 30 feet from the main crosscut. Its length is 14 feet 9 inches. Nothing of value was met with, thus showing that nothing has been missed in that direction.—No. 1 west. This level has been extended 23 feet 6 inches from the main crosscut. A little gold can be got, but up to this time the ore does not pay to save. Water is making freely in this face also.—Intermediate crosscut 150 feet level. A crosscut has been commenced to go out to the east and west reef at this point, the object being to open up this section of ground for stoping. Drivage 10 feet.—No. 1 south, 110 feet level. This level, which was driven some years ago by our predecessor, has been cleared of mullock and timbered the whole length—50 feet. A contract has now been let to go out under the ore ground found on the course of the north and south reef some months ago. Its course will be south 37° east so as to reach what is supposed to be the best point as quickly as possible. A winze has been commenced on the hanging wall of the east and west reef at about 100 feet north of the shaft to go down to the 150 feet level, and so ventilate and open up the ground for stoping. It has just touched the reef, and is giving a little ore for the mill. Depth 19 feet 6 inches.—Large stopes. These continue to give the usual quantity of payable ore for the mill.—Milling. This was carried on during 27½ days, crushing 726 tons of ore, yielding 251 ounces of melted gold from the mine and 644 tons of old headings for a yield of 66 ounces.—General. The usual attention has been paid to work coming under this head.

ELECTRIC LIGHTING OF NEW CRAIG HOUSE, MORNINGSIDE, EDINBURGH.—Messrs. Ernest Scott and Mountain (Limited), electrical engineers, Newcastle-on-Tyne, who were entrusted with the contract for the lighting of New Craig House, Morningside, Edinburg, by the managers of the Royal Edinburgh Asylum for the Insane, have now successfully completed this work. The installation consists of two Lancashire boilers, each 25 feet long by 7 feet 6 inches diameter; four compound horizontal engines, each capable of developing 60 effective h.-p., with the necessary steam pipes including feed-water heater and feed pumps; four "Tyne" compound wound dynamos, each capable of feeding 400 16-c.p. lamps; with the necessary main switchboard and coupling switches, and about 1350 16-c.p. incandescent lamps and fittings.

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, NOVEMBER 30.

Copper.

THE G.M.B. market opened on Monday firm at £40 12s. 6d. three months, and £40 5s. and £40 6s. 3d. s.c. The tone was distinctly good, but the action of one or two prominent sellers checked the improvement, and sent the value back to £40 s.c. and £40 6s. 3d. Tuesday's market was without animation, and the price was a shade easier again, s.c. eventually changing hands at £39 17s. 6d. On Wednesday the market was dull, and values again declined until £39 13s. 9d. had been accepted for cash, and £40 for three months, but Thursday brought a rally to £39 17s. 6d. and £40 5s. respectively. The turnover for the four days averaged about 450 tons per day. To-day we had a dull market with a very small turnover, and we close at £39 15s. s.c., and £40 1s. 3d. three months sellers. Consumptive inquiry has been brisker, and relatively higher prices are asked by several of the leading makers, whilst others are not sellers at all just now.

Tin.

This market has been irregular as to price. In the earlier part of the week it was depressed by persistent selling from £63 10s. to £62 s.c., the latter price being paid on Tuesday afternoon. Monday was the busier day of the two, the sales amounting to 530 tons, whilst 275 tons were done on Tuesday. A reaction set in on Tuesday evening, and by Wednesday evening the cash price had risen to £62 10s., and on Thursday the absence of speculative selling, coupled with a very fair consumptive enquiry, resulted in a recovery to £63 7s. 6d. To-day the upward movement reached its zenith, with the payment of £63 12s. 6d. three months. At this higher range sellers came out, and the result of their offers was a heavy fall, the market closing flat at £62 12s. 6d. to £62 15s. for all positions. Billiton tin opened at 38½ fl. s.c., and three months' declined to 38 fl. both positions, and closes at 38¼ fl. s.c. and 38⅜ fl. three months, with Banca at 38½ fl.

Pig Iron.

The market in Glasgow has been dull both as to volume of business and prices realised. The latter have ranged from 42s. 7d. to 42s. 5½d., and the close is at 42s. 6d., s.c., Scotch sellers, whilst Hematite and Middlesbrough are quoted at 43s. 4d. and 35s. 5d. respectively. Scotch shipments last week were 5103 tons, or 614 tons above those of the corresponding week of 1893.

Lead

Has kept steady throughout the week at £9 12s. 6d. to £9 13s. 9d., at which prices business was done. The market closes steady at £9 12s. 6d. soft foreign, and £9 15s. English.

Spelter.

The market opened at £14 8s. 9d. for ordinaries, and after touching £14 6s. 3d., and recovering to £14 8s. 9d., closes flat at £14 5s. to £14 6s. 3d., with specials at £14 8s. 9d. to £14 10s. The production of spelter has already attained large proportions, and whether the syndicate is renewed or not, the production will undoubtedly be still larger next year. The chances are, however, that the syndicate will not be renewed, so that each producer will be free to make as much as he likes. As it is, stocks in makers' hands seem to be increasing, and the outlook is not bright.

Antimony is quiet at £33 to £34.

Quicksilver closes at £6 15s. firsts, and £6 7s. 6d. seconds.

The following are to-night's (November 30) prices of metals:—

	£ s. d.	£ s. d.
Copper.		
Tough cake and ingot	42 5 0	42 10 0
Best selected	42 15 0	43 0 0
Sheets and sheathing	——	51 0 0
Flat bottoms	——	54 0 0
Chili bars	spot, & 3 months respectively 39 15 0	40 1 3
Good merchantable,		
Copper tubes, seamless	——	0 0 7½
Alloys.		
BRASS: Wire	——	0 0 6
Tubes (solid drawn)	——	0 0 5¾
Sheets	——	0 0 5¾
PHOSPHOR BRONZE: Alloys II.	——	78 0 0
III. or V } Cog Wheel Brand	——	81 0 0
VII.	——	83 0 0
XI.	——	78 0 0
Vulcan brand A1	——	72 0 0
DUMO METAL	——	73 0 0
BULL'S METAL	——	65 0 0
Ferrobronze (Vivian's).		
Ingots per lb.	0 0 5½	——
Ordinary sheets, plates, bolts and bars	0 0 6½	——
Screw bolts and nuts	0 0 8	——
Pump rods, plain	0 0 7	——
finished	0 0 10	——
DELTA METAL: No. 4 (per ton)	——	73 10
Sheets and plates (per lb.)	0 0 10½	——
Bars, round, square, flat (per lb.)	0 0 9½	——
hexagon (per lb.)	0 0 9	——
Tin.		
English, ingots, f.o.b.	63 10 0	67 0 0
bars	67 10 0	68 0 0
refined	68 0 0	69 0 0
Straits, spot and 3 months respectively	62 15 0	62 15 0
Australian spot, and three months respectively	63 0 0	63 0 0
Banca (in Holland)	64 12 6	64 15 0
TIN PLATES: Charcoal, best quality per box	0 12 0	0 14 0
ordinary	0 11 0	0 11 6
Coke, best quality	0 10 3	0 10 9
ordinary	——	0 9 9

These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per box more.

Iron.		
Pig, G.M.B., f.o.b., Clyde, spot	——	2 2 6
Scotch pig, No. 1 Gartsherrie	——	2 12 0
Coltness	——	2 15 6
Clyde	——	2 10 6
Govan	——	2 4 0
Bars, Welsh, f.o.b. Wales	——	5 0 0
Plates	——	6 0 0
Bars, Staffordshire, at works	——	5 2 6
Sheets	——	6 7 6
Plates	——	6 5 0
Hoops	——	6 0 0
Ship plates, Middlesborough	——	4 17 6
STEEL: English spring	——	18 0 0
cast	——	42 0 0
Rails at works, according to section	3 12 6	4 5 0
Lead.		
Spanish or soft foreign	——	9 12 6
English pig, common	——	9 15 0
L.S.	——	10 7 6
sheet and bar	——	10 17 6
pipe	——	11 7 6
red	——	12 10 0
white	——	14 10 0
patent shot	——	14 0 0
Spelter.		
Silesian ordinary brands	14 5 0	14 6 3
special brands	14 8 9	14 10 0
English Swansea	——	14 17 6
Sheet Zinc	18 0 0	18 5 0
Antimony.		
Antimony	33 0 0	34 0 0
Quicksilver.		
Flasks, 75 lbs. warrants	6 7 6	6 15 0
Manganese.	per unit.	
Ore, c.i.f., U.K. ports		
1st quality, 50 per cent. and upwards	0 0 10½	0 0 11½
2nd " 47 per cent. to 50 per cent.	0 0 9	0 0 10
3rd " 40 " 47 per cent.	0 0 8	0 0
Aluminium.		Per lb.
98-99½ per cent. (guaranteed 98 per cent. min.) in ingots (1 cwt. lots)		0 1 8½
do do (1 ton lots)		0 1 7¾
Nickel.		
98-99 per cent. guaranteed	0 1 4	0 1 5

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "called up" column of British Mines, signifies that the mine is conducted on "Cost Book" principles: ‡ in the "Head Office" column of African Mines, signifies that the address given is not that of the head office, but of a sub- or transfer office and †, following the names of African mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct; we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

BRITISH MINES.

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par. £ s.	Latest Dividend	Called up Per Share. £ s. d.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Blue Hills .....*CT*	2/6 5/-	2/6	*	2/- May, '81	5 15 6	5,353	Cornwall	Camborne.
Botallack .....*T*	1 1¼	1	*	—	51 4 6	1,880	Cornwall	St. Just.
Carn Brea ....*T*	5½ 6	5	*	2/6 Dec.,'93	22 8 5	6,000	Cornwall	Carn Brea.
Cook's Kitchen ..*T*	1/ 3/-	1/-	*	—	35 15 1[illegible]	4,900	Cornwall	Camborne.
Devon Gawton *CA*	par ¼ pm.	p.¼p.m	1 0	—	0 7 6	25,000	Near Tavistock	8, Finsbury circus.
Devon Gt Cons. *CA*	1¾ 1⅜ xd	1½	5 0	3/- Nov. '94	2 0 0	10,240	Devon	8, Finsbury circus.
Dolcoath ....*T*	50 52	50	*	12/6 Apr. '94	9 12 6	4,700	Cornwall	Camborne
Drakewalls *CTM*	-/3 -/6	-/3	0 5	—	0 2 0	61,856	Cornwall	Dashwood House.
East Pool ......*AT*	4¾ 5¼	4	*	1/6 Sept. '94	0 9 9	6,400	Cornwall	Illogan.
Gawton ....*CA*	—	—	2 10	—	2 7 3	12,000	Devon	20, Great St. Helens.
Great Laxey......*L*	1½ 2	1½	4 0	5/- Apr., '92	4 0 0	15.000	Isle of Man ...	Douglas, Isle of Man.
Green Hurth ...*L*	1/6	1/6	1 0	-/6 June '89	0 19 0	32,000	Cumberland...	Newcastle.
Halkyn .... *L*	—	—	1 0	2/- Sept. '94	1 0 0	10,000	Flintshire......	Chester.
Hexworthy ......*T*	—	—	1 0	—	1 0 0	14,634	Devon	6, Queen-street-place
Isle of Man ......*L*	—	—	5 0	1/6 Dec. 94	5 0 0	14,000	Isle of Man ...	Chester.
Killifreth ....*T*	2 2¼	2	*	1/6 Nov.,'94	5 11 6	6,000	Cornwall	Truro.
Leadhills ....*L*	15/- 20/-	15/-	6 0	3/- Sep '92	6 0 0	20,000	Lanarkshire...	30, Finsbury-circus.
Levant ....*CT*	—	—	*	4/- Nov., '94	11 9 6	2,500	Cornwall	Penzance.
Lovell ....*T*	—	—	*	1/3 Nov., '91	1 16 7	7,165	Wendron	3, Gt. Queen-st., S.W.
Minera.............. *L*	—	—	5 0	5/6 Mar. '90	5 0 0	9,000	Denbighshire.	Minera, N. Wales.
Nenthd&Tndle. *LZ*	1/6	1/6	1 0	6% Feb., '91	0 18 0	48,8[illegible]5	Northumberld	Newcastle-on-Tyne
NewCooksKitn. *TC*	—	—	*	—	10 18 3	4,900	Cornwall	Camborne.
New Minera	—	—	1 0	1/- Oct., '92	1 0 0	30,000	North Wales...	6 Queen-street-place.
Parc ....*LZ*	—	—	1 0	—	1 0 0	5,000	Llanrwst.........	Billiter sq. buildings
Phœnix United *TC*	1/- 3/-	1/-	*	1/- Mar. '90	7 4 6	10,666	Cornwall	Liskeard.
Polberro ....*T*	17/6 22/6	17/6	*	—	3 7 9	18,000	Cornwall	37, Walbrook.
So. Condurrow *TC*	2/6 5/-	2/6	*	3/6 Apr. '93	7 12 1	6,123	Cornwall	20, Great St Helens
South Crofty *TA*	10/- 15/-	2/6	*	—	17 7 6	6,120	Cornwall	Pool, Cornwall.
S. Frances Untd. *T*	2/6 7/6	2/6	*	—	2 7 6	6,000	Cornwall	Redruth.
Tincroft ....*T*	7 8	7½	*	2/- Aug. '94	15 7 6	6,000	Cornwall	Carn Brea.
Weardale ....*L*	9/-	9/-	4 0	1/3 Oct. '90	1 10 0	60,000	Durham.........	3, Lombard-court.
West Frances ...*T*	5/- 10/-	2/6	—	2/6 May, '89	16 4 7	6,144	Cornwall	Camborne.
West Kitty ......*T*	5 5½	5	*	3/- Aug. '94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ..*TA*	2/6 7/6	2/6	*	2/6 Aug. '88	23 15 2	6,000	Cornwall	Redruth.
Wheal Basset ...*TC*	10/- 15/-	10/-	*	10/- Apr. '88	12 3 0	6,144	Cornwall	Redruth.
Wheal Friendly..*T*	-/6 1/-	-/6	*	—	0 12 9	10,000	Cornwall	110, Cannon-st., E.C.
Wheal Grenville *T*	12¼ 13½	13	*	2/6 Nov. '94	18 2 0	6,000	Cornwall	7, Union-court, E.C.
Wheal Kitty......*T*	3/- 5/-	2/-	*	3/- Mar. '88	4 5 6	8,590	Cornwall	Truro.
Wheal Metal &F. *T*	⅛ ¼	⅛	*	—	0 13 9	10,784	Cornwall	14, Broad-street Av.

AUSTRALIAN AND NEW ZEALAND MINES.

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par.	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Abbotts ....*G*	⅛ dis par	⅛ dis.p.	1 0	—	0 7 6	100,000	Murchison ..	17, Old Broad st.
Achilles Gld Fld.	2/6 3/6	2/6	1 0	—	1 0 0	80,307	New Zealand	3, Church Pas., E.C.
Aladdins Lamp *G*	1⅛ 1¼	1 3/16	1 0	1/- Apr. '94	1 0 0	100,000	N S Wales ...	4-6, Throg. Avenue.
Amana (Went.) *G*	—	—	1 0	—	1 0 0	75.000	N. S. Wales ...	5, Throg. Avenue.
Anglo-Saxon ...*G*	—	—	1 0	2/- July, '89	1 0 0	51,000	Queensland ..	4, Lombard-court
Austin........ .... *G*	1/16 dis ¼ pm	p.½pm.	1 0	—	0 12 6	50,000	W. Australia...	23, College hill, EC
Australasian ......*G*	2/9 3/3	3/-	1 0	-/6 Mar., '92	1 0 0	210,000	Queensland ..	6, Queen-st, place
Australian ....*C*	—	—	20 0	1/6 July '94	7 7 6	18,315	So. Australia	15, Old Jewry Chbrs
Aus. Bro. Hill Con.	1/6 2/-	1/6	1 0	1/- June, '91	1 0 0	537,138	N. S. Wales ...	Winchester House.
Baker's Creek ...*G*	1 1⅛	1 1/16	1 0	1/- Sept. '94	0 17 6	100,000	N. S. Wales ...	Hillgrove, N.S.Wales
Bayley's Reward *G*	18/- 19/-	16/	1 0	-/4 Nov. 94	1 0 0	480,000	W. Australia...	2, Met. Ex. Buildings
Big Blow ....*G*	—	⅛ dis p.	1 0	—		100,000	W. Australia...	Blomfield Ho., E.C.
Blackett's Claim *G*	15/ 17/6	15/-	1 0	—	1 0 0	60,000	W. Australia...	14, Sherborne ln. E.C.
Blue Spur & G. G.	-/6 1/-	-/6	1 0	—	1 0 0	80,098	New Zealand	6, Gt. St. Helens'
Bonnie Dundee *G*	4/- 4/6	4/-	1 0	—	0 18 6	120,000	Queensland .	3-5, Gracechurch-st
Brilliant..... ......*G*	17/- 18/-	16/6	2 0	-/4 Dec. '94	2 0 0	250,000	Queensland ..	Charters Towers.
Brilliant Block ...*G*	1 9/16 1 11/16	1 7/16	2 0	-/6 Dec. '94	2 0 0	250,000	Queensland ...	3, Gracechurch-st.
Brilliant, St. Geo.	29/ 31/	25/-	0 10	6d. Dec. '94	0 6 3	72,000	Queensland ...	Charters Towers.
Brit. Brok. Hill *S*	3/- 4/-	3/-	5 0	—	5 0 0	240,000	N. S. Wales ...	Dashwood Ho., E C.
Broken Hill Prop.	1 15/16 2 1/16	2	0 8	1/- Dec. '94	0 8 0	960,000	N. S. Wales ...	Dashwood Ho., E C.
Brkn. Hill P. Bl.10	—	—	10 0	1/- Feb. 94	9 13 0	100,000	N. S. Wales ...	117, Leadenhall st. EC‡
Brkn Hill P. Bl.14	—	—	5 0	—	5 0 0	10[illegible],000	N. S. Wales ...	117, Leadenhall st. EC
Carrington... .....*G*	2/3 2/9	2/3	12/6	—	0 12 6	100,0[illegible]7	Queensland ...	9, Tokenhouse Yard.
Con. G. M. of W. A.	par 1/16 pm.	p.1/16 pm	1 0	—	0 7 6	9[illegible],000	W. Australia..	14, Hill st., Edinboro'
Coolgardie ....*G*	-/7½ -/13½	-/7½	0 2	—	0 0 6	40,000	Coolgardie	Winchester House.
Craven's Cal. ....*G*	2/6 3/-	2/6	0 6	-/3 June 94	0 4 8	100,000	Queensland .	30 1, S. Swithin's-le.
Croydon King B. *G*	3/- 5/-	3/-	0 5	—	0 5 0	60,000	N Queensland	Leadenhall Blg. E.C.
Cumbrind (New) *G*	-/9 1/3	-/9	1 0	2/6 Dec. '87	1 0 0	184,890	Queensland ..	Blomfield House E.C
Day Dawn B.&W. *G*	7/9 8/3	7/9	1 0	-/6 Mar. 93	1 0 0	49[illegible],400	Queensland ...	3-5, Gracechurch-st.
Day Dawn P. C. *G*	6/9 7/3	6/6	1 0	-/6 Apr. '92	1 0 0	490,000	Queensland ...	Winchester Ho., E.C
Eaglehawk ....*G*	2/3 2/9	1/-	1 0	—	0 19 6	120,000	Victoria......	31, Lombard-street.
Empress Coolge. *G*	⅛ ¼	⅛	1 0	—	0 7 6	90,000	W Australia..	2, Tokenhouse bldgs
Eng. & Aus. Cop. *Cu*	1/16	1/16	2 0	2% 1883	1 17 6	70,000	So. Australia	136, Palmerston-blds
Etheridge ....*G*	-/1½	-1½	0 5	—	0 5 0	324,[illegible]90	Queensland ..	6-7, Queen-street-pl.
Frederick the Gt *G*	par. ½ pm.	p.½pm.	1 0	—	1 0 0	125,000	Victoria......	St. George's House.
Glenrock .... *G*	-/9 1/3	-/6	1 0	—	0 19 6	225,000	N. Zealand ..	3-5, Queen-st, E.C.
Golconda .... *G*	17/6 20/-	16/3	1 0	—	1 0 0	73,000	W Australia..	14, Sherborne ln., E.C
Great Boulder .. *G*	⅜ ¼ dis.	⅜	1 0	—	0 10 0	} 100,000	W. Australia...	3, Gracechurch st.
Great Boulder ...*G*	⅜ 1/16	[illegible]/-	1 0	—	1 0 0		W. Australia..	3. Gracechurch st.
Golden Gate... *G*	1/3 1/9	1/3	0 10	—	0 10 0	150,000	Queensland..	9, Tokenhouse Yard.
Hampton Lands...	2¾ 3	2 1/16	1 0	10/- Nov. '94	1 0 0	53,164	W. Australia.	1, Whittington Avne
Hampton Plains	31/3 33/9	28/3	1 0	—	0 4 0	350,000	W. Australia.	29, S. Swithin's lane
Hannan's BrwnHll	3/16 5/16pm	1¼	1 0				W. Australia.	
Harrietville ......*G*	—	—	1 0	-/6 July, '90	1 0 0	146,330	Victoria......	6-7, Queen-street-pl.
Kaboonga ....*G*	1/6 2/-	1/6	0 10	—	0 9 9	500,000	Queensland ..	70 71, Bishopsgate st.
Kangarilla ....*S*	4/- 5/	2/9	1 0	—	1 0 0	88,275	So. Australia	68, Coleman-street.
Kapanga.............*G*	4/- 4/6	4/6	1 0	-/6 Jan. '91	0 19 6	250,000	N Zealand ..	9, New Broad-street.
Kilkivan.............*G*	1/6 2/-	1/6	1 0	—	1 0 0	81,392	Queensland ...	4, Coleman-street.
Kinsella ....*G*	⅜ ⅛ dis.	3/16	1 0	—	1 0 0	80,000	W. Australia..	
L.& W. Aust. Expl.	1⅜ 1¾	1 11/16	1 0	20 p.c. Dec. '94	1 0 0	100,000	W. Australia...	Broad Street Ho.
Mawson's Rewrd. *G*	20/- 22/6	18/9	1 0	—	0 10 0	60,000	W. Australia...	28 & 29, S Swithin's ln
Midas G. F. ...*G*	—	—	1 0	—	1 0 0	180,000	Victoria.........	32 Poultry, E.C.
Mills' Day Dawn *G*	1 5/16 1 9/16	1 7/16	1 0	-/6 Nov. '94	0 15 6	300,000	Queensland ..	3, Gracechurch-st.
Moruya ....*GS*	—	—	1 0	—	1 0 0	58,235	N. S. Wales ..	16, St. Helen's-place.
Mosman ....*G*	2/9 3/3	2/6	1 0	-/3 Jan., '94	1 0 0	185,000	Queensland ...	3-5, Gracechurch-st.
Mt. Leyshon ..... *G*	-/6 1/-	-/6	1 0	-/6 Dec. '90	1 0 0	157,989	Queensland ...	7, Draper's-gardens.
Mountain Maid *G*	2/- 3/-	2/-	0 10	—	0 6 3	56,000	Queensland..	Leadenhall Bldgs.
Mount Morgan *G*	2 7/16 2 9/16	2⅜	1 0	-/6 Dec. '94	0 17 6	1,000,000	Queensland ..	50, Lime-street.
Mt. Shamrock *GB*	—	—	1 0	—	1 0 0	275,000	Queensland ..	9, Tokenhouse-yard.
Mount Zeehan *Sl.*	-/6 1/-	-/6	1 0	—	1 0 0	193,257	Tasmania	Mansion Ho. Cham.
N. Smithfield .. *G*	—	—	0 10	3/- July, '9[illegible]	0 10 0	48,000	Gympie.........	Queensland.
New Queen ... *G*	5/6 6/-	5/6	1 0	-/6 Apr., '94	0 19 6	158,915	Queensland ...	30, St. Swithin's-la.
PhœnixGold.Pile *G*	—	—	0 5	-/9 Aug. '94	0 5 0	48,000	Gympie.........	Gympie, Queensland
Port Phillip ......*G*	-/3 -/9	-/3	0 5	—	0 5 0	200,000	Victoria	57, Moorgate-st., E.C.
Queen's Bthdy Un	11/- 12/-	11/-	1 0	—	0 12 6	75,000	Victoria	7-8, Gt. Wnchster St.
Queens. Smelting	1/16 ⅛	1/16	1 0	—	1 0 0	36,244	Queensland ..	9, Tokenhouse Yard.
ScottishAustralian	⅜ ⅞	⅜	1 0	4 4-5d. Nov. '94	1 0 0	200,00	N.S. Wales ..	Winchester Ho. E.C.
Sunburst.............*G*	—	—	0 10	-/6 Mar. '92	0 10 0	150,000	Queensland ...	9, Tokenhouse Yard.
True Blue ....*G*	—	—	1 0	-/3 July. '94	1 0 0	53,000	Australia	Leadenhall Blg. E.C.
Victoria Associatn.	—	—	1 0	-/3 Dec. '94	1 0 0	144,000	Char. Towers	6, Crosby-square
Victory............ *G*	6/- 7/	5/6	0 5	-/6 Mar., '94	0 5 0	200,000	Queensland	32, Gresham-st, E.C
Waihi.............. *G*	4½ 4⅝	3⅜	1 0	1/- Dec. '94	1 0 0	150,000	New Zealand	11, Abchurch-ln E.C
Wentworth Ord. *G*	5/6 6/6	5/6	1 0	—	1 0 0	350,000	N. S. Wales ...	4-6, Throgmort. Av.
Went. Priority.. *G*	14/- 16/-	13/-	1 0	6/- Jan '93	1 0 0	150,000	N. S. Wales ..	4 6, Throgmort. Av.
W. Argentine ... *G*	-/6 1/-	-/9	1 0	—	0 19 6	150,000	N. Zealand ...	3-5, Queen-street.
W. Aust. Concessn	1⅛ 1⅛c.d.	1⅛	1 0	20 p c Nov. '94	1 0 0	25,000	W. Australia...	33, Old Broad st., EC
W. Aus. Exploring	1/16 dis 1/16 pm	1/16 dis	1 0	—	1 0 0	100,000	W. Australia...	5[illegible], Old Broad st., EC
W. Australian G.F.	3⅛ 3⅜	3	1 0	—	1 0 0	65,000	W. Australia...	28 29, S. Swithin's-ln.
W. Aust. Mining	8/6 9/6	8/6	1 0	—			W. Australia...	257, Winchester Ho,
W. Mallina .. ...*G*	2/6 3/	2/3	0 5	—	0 2 0	30,000	W. Australia..	
White Feather ...	2¼ 2⅜	2	1 0	—	1 0 0	60,000	W. Australia...	28 & 29, S. Swithin's ln
Zeehan Montana *S*	—	—	1 0	6d Aug., 94	1 0 0	66,[illegible]00	Tasmania	11, Queen Victoria st
Zeehan Montana *S*	—	—	1 0	5d Aug., 94	0 12 6	12,600	Tasmania	11, Queen Victoria st

EUROPEAN MINES.

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par.	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alamillos ....*L*	⅜ ⅜	⅜	2 0	-/6 Oct. '94	2 0 0	35,0[illegible]0	Spain	5, Queen-street-place
Avala ....*Q*	0 ⅜	0	1 0	1/- May '93	1 0 0	150,047	Servia...........	4, Tokenho. Bldgs.
Consett Ore ...... *I*	5¼	5¼	1 0	5/- July '94	1 0 0	55,20	Spain	19, Grey-st., N'castle.
English Cr. Spelter	⅜ ⅜	⅜	1 0	2½% Aug. '94	1 0 0	84,000	Lombardy	9, Queen-street-place
Fortuna ... .*L*	¾ 1	20/-	2 0	1/- Oct. '94	2 0 0	25,000	Spain	6, Queen-street-place
Libiola...............*C*	3¼ 3⅝	3¼	5 0	2/6 Aug. 94	5 0 0	50,400	Italy	Dashwood Ho., E.C.
Linares ....*L*	3¼ 3¾	3¼	3 0	5/- Oct. '94	3 0 0	14,998	Spain	6, Queen-street-place
Mason & Barry...*C*	1⅜ 1¾	1⅜	5 0	2/- May. '94	5 0 0	165,172	Portugal	87, Cannon-street.
Oscar ....*G*	—	—	5 0	—	0 4 6	117,240	Norway	6A, Austin Friars.
Pestarena ....*G*	3/6 4/-	3/6	3 0	—	3 0 0	67,[illegible]09	Italy	6-7, Queen-street-pl.
Rio Tinto ....*C*	14 13/16 14 15/16	15⅛	10 0	4/- Oct., '94	10 0 0	325,000	Spain	30, St. Swithin's-lane
Do. (Mort. Bonds)	104 106	104	100 0	5% Oct., '94	100 0 0	£1[illegible]92,740	Spain	30, St. Swithin's-lane
Do. (2nd do.)	104 104	102	100 0	5% Oct., '94	100 0 0	£1024,[illegible]	Spain	30, St Swithin's-lane
Do. (3rd do.)	100 102	100	100 0	5 p.c. Oct., '94	100 0 0	£5[illegible]7,080	Spain	30, St. Swithin's lane
Ripanji ....*SQ*	11/- 12/-	11/-	1 0	—	0 19 0	95,000	Servia...........	120, Bishopsgt-st. Wn.
Tharsis....... ...*C Sul*	4⅜ 4⅝	4⅜	2 0	12½% Mar. '94	2 0 0	625,000	Spain	Glasgow.
West Prus Pre. pref	—	—	10 0	8% Oct., '94	10 0 0	365	Germany	Walbrook Ho., E.C.
West Prussian Pre.	—	—	10 0	8% Oct., '94	10 0 0	5,450	Germany	Walbrook Ho., E.C.
West Prussian Or.	—	—	10 0	8% Oct., '94	10 0 0	14,050	Germany	Walbrook Ho., E.C.
Wohlfahrt ....*L*	—	—	1 0	3% Dec. '94	1 0 0	99,634	Prussia	17, Victoria-st., S.W.
Wohlfahrt	—	—	1 0	3% Dec. '94	0 10 0	9,090	Prussia	17, Victoria-st., S.W.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par. £ s.	Latest Dividend.	Called up per Share. £ s. d.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Asia Minor Pref. *Sl.*	—	—	0 10	—	0 10 0	42,430	Asia Minor ...	2, Metal Ex. Bldgs.
Do. Ord. ...	—	—	0 10	—	0 9 0	51,584	Asia Minor ...	2, Metal Ex. Bldgs.
Balaghat Mysore *G*	4/- 5/-	4/6	1 0	—	0 18 0	160,000	India	6-7, Queen-street-pl.
Burma Ruby......*R*	3/- 4/-	2/-	1 0	—	0 17 0	300,000	Burmah	Suffolk House, E O.
Champion Reef...*G*	3⅛ 3⅜	3⅛	1 0	2/- Aug. '94	1 0 0	200,000	India	6-7, Queen-street-pl.
Colar Central .. *G*	-/3 -/6	-/3	1 0	—	1 0 0	200,000	India	Dashwood Ho., E.C.
Coromandel...... *G*	2/6 3/6	2/6	1 0	—	0 13 9	95,000	India	6-7, Queen-st.-place.
[illegible] Ala Movar ...*G*	—	—	1 0	—	1 0 0	200,000	India	34, Nicholas-lane.
Gemming&Mining	—	—	2 0	—	1 7 6	19,594	Ceylon	183, Gresham House.
GoldFldsMysore *G*	17/- 19/-	17/-	1 0	1/- July '92	1 0 0	220,000	India	6-7, Queen-street pl.
Gold Flds Siam *G*	—	—	1 0	—	1 0 0	150,000	Siam	19, St. Swithin's-lane.
Hyderabad Dec. ..	10 1/16 10¾	7⅜	10 0	—	10 0 0	115,000	Deccan	16, St. Helen's-place.
Kempinkote GdFd	2/3 2/9	2/3	0 5	—	0 3 6	665,473	India	6-7, Queen-st.-place.
Mysore .... *G*	2 5/16 2 7/16	2⅜	1 0	1/- Nov. '94	1 0 0	250,000	India	6-7 Queen-street pl.
My. Harnhalli ... *G*	1/9 2/3	1/9	1 0	—	0 18 0	100,000	India	2, East India Avenue
Mysore Reefs ... *G*	5/6 6/-	4/6	1 0	—	1 0 0	134,788	India	6-7, Queen-street-pl.
Mysore West (N) *G*	8/- 9/-	8/-	1 0	—	0 18 6	127,4[illegible]8	India	Dashwood Ho., E.C.
Mysore Wynaad *G*	7/- 8/-	6/-	1 0	—	0 18 6	250,000	India	Dashwood Ho., E.C.
Nine Reefs ......*G*	2/6 3/-	2/6	0 10	—	0 10 0	50,000	India	6-7, Queen-street-pl.
Nine Reefs	2/- 2/6	2/-	0 10	—	0 9 6	200,000	India	6-7, Queen-street-pl.
Nundydroog..... *G*	1⅛ 1⅜	1 7/16	1 0	1/6 Dec. '94	1 0 0	200,000	India	6-7, Queen-street-pl.
Ooregum (Df.O.) *G*	2⅝ 2⅞xd	2 13/16	1 0	2/6 Nov. '94	1 0 0	145,000	India	6-7, Queen-street-pl.
Do. (10% Pref.).	3¼ 2½xd	3¼	1 0	2/6 Nov. 94	1 0 0	95,536	India	6-7, Queen-street-pl.
Do. (10% Pref.).	2⅞ 3½xd	3	1 0	2/6 Nov. '94	0 5 0	24,464	India	6-7. Queen-street-pl.
Pahang Corpn. *T*	8/6 9/-	8/6	1 0	15% Apr. '89	1 0 0	203,070	Malay Penin.	Blomfield Ho., E.C.
Pahang Kabang *T*	1/16 3/16	1/16	1 0	—	1 0 0	394,700	Malay Penin.	4a, Jeffrey's sq., E.C
South E. Mysore *G*	2/- 2/6	2/3	0 4	—	0 4 0	134,623	India	6-7, Queen-street-pl

NORTH AMERICAN MINES.

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par.	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Alaska Mexican...*G*	1 1¼	1 5/16	$5	7 1-5d. Nov. 94	$5	160,000	Alaska...........	30, St. Swithin's-ln.
Alaska Treadwell *G*	3⅜ 3⅝	3⅜	$25	1/6 Oct., '94	$25	200,000	Alaska...	30, St. Swithin's-ln.
Almada and T... *S*	-/3 -/6	-/3	2/6	—	0 2 6	351,008	Mexico	6, Queen-street-place
American Belle...*S*	1/16 3/16	1/16	1 0	-/6 Mar. '91	1 0 0	398,890	Colorado	25A, Old Broad-street
Anglo Mexican ...*S*	—	—	5 0	3/- Jan. '90	5 0 0	74,850	Mexico	23, College Hill.
Arizona (Pref.) *Cu*	8/9	8/9	4 0	—	4 0 0	158,920	Arizona	74, Geo.-st., Edinbor'
Do. 10% Deben.	55½xd	55½	100 0	7% Nov. '94	100 0 0	2,660	Arizona...	74, Geo.-st., Edinbor'
Arizona Trust......*C*	30/9 31/-xd	31/-	3 0	1/6 Nov. 94	1 0 0	87,701	Arizona	123, Geo.-st., Edinbor'
Arizona Trust......*C*	69/-xd	69/-	3 0	1/6 Nov. 94	3 0 0	25,548	Arizona...	123, Geo.-st., Edinbor'
Big Creek ...... *Ay.*	2/6	2/6	1 0	1/- Dec. '91	1 0 0	50,000	Nevada	2, Pancras-lane, E.C.
California .... *G*	—	—	0 10	-/6 May 90	0 8 9	129,571	Colorado	St. George's Ho E.C.
Canadian Phos. *P*	—	—	1 0	-/6 Nov. '90	1 0 0	73,334	Canada	155, Fenchurch-st.
Colorado Boy......*S*	—	—	1 0	—	1 0 0	112,491	Colorado	Abchurch-chbrs, E.C
Cortez ....*S*	—	—	1 0	3% Feb. '93	1 0 0	300,000	Nevada	Suffolk House, E.C.
Decatur..............*Sl.*	—	—	1 0	—	1 0 0	32,500	Colorado	35, Queen Victoria-st.
Do... ...... (Pref.)	—	—	1 0	—	1 0 0	12,500	Colorado	35, Queen Victoria-st
De Lamar... ......*GS*	25/6 26/6	25/-	1 0	1/- Oct., '94	1 0 0	400,000	Idaho............	6, Draper's-gardens.
Dickens Custer *GS*	-/4½ -/7½	-/4½	1 0	—	0 19 9	420,000	Idaho.....	Winchester Ho. E.C.
Elkhorn ....*S*	12/- 13/-	12/-	1 0	1/- Sept. '94	1 0 0	175,007	Montana	6, Draper's-gardens.
Emma ....*S*	-/6 -/9	-/3	0 5	—	0 5 0	403,618	Utah	15, Geo-st, Mansn. Ho
Flagstaff ....*S*	—	-/6	1 0	—	0 19 9	240,000	Utah	Dashwood Ho., E.C
Fisk.................. *G*	—	—	1 0	6d May, 9	1 0 0	134,000	Colorado	5, Fenchurch st.
Garfield .. ..*GS*	—	—	1 0	-/6 Dec. '88	0 19 6	98,185	Nevada	Suffolk House, E.C.
Golden Feather *G*	4/6 5/6	5/-	1 0	—	1 0 0	180,000	California	8, Stephens Cs E C.
Golden Gate ......*G*	3/- 4/-	3/-	1 0	—	0 19 6	79,600	California	St Stephens Cs E.C.
Golden Leaf...... *G*	3/- 3/6	3/-	1 0	—	1 0 0	300,259	Montana	8, Draper's Gardens.
Golden Valley...*G*	1/3	1/3	1 0	—	0 19 0	55,507	Colorado	15, Angel Court.
Harquahala... .. *G*	4/- 5/-xd	4/	1 0	-/6 Oct., '94	1 0 0	300,000	Arizona	6, Draper's Gardens.
Holcomb Valley *G*	-/6 -/9	-/9	0 5	—	0 5 0	540,000	California	14, Cornhill E.C.
Idaho............ *GS*	2/ 2/6	2/	0 5	—	0 4 8	143,439	Idaho	140, Leadenhall-st.
Jackson Goldfields	/10½ 1/1½	-/10½	5 0	—	0 5 0	408,635	California	11, Poultry, E.C.
Jay Hawk ....*G*	4/- 5/-	2/6	1 0	-/6 Dec. '92	1 0 0	285,000	Montana	Dashwood House.
Kohinoor "B" *GS*	—	—	1 0	-/6 June. '81	1 0 0	112,901	Colorado	Blomfield Ho., E.C.
La Plata.............*S*	1/4½ 1/7½	-/4½	0 5	1/3 Oct. '82	0 4 3	405,000	Colorado	11, Poultry, E C.
La Yesca ....*GS*	-/9 1/-	-/7½	1 0	—	0 19 0	76,015	Mexico	20, Bucklersbury, EC
Maid of Erin ...*S*	4/6 5/6	4/6	1 0	4c. p sh Sept'94	1 0 0	575,000	Colorado	43, Threadneedle-st.
Mammoth Gold ..	-/3 -/6	-/3	1 0	—	1 0 0	400,000	Pinal Arizona.	257, Winchester Ho.
Mesq. d'l Oro (P) *G*	—	—	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Mesq. d'l Oro (D) *G*	—	—	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Montana .... *GS*	12/- 13/-	12/6	1 0	5% April '91	0 19 0	657,158	Montana	Gresham House, E.C.
New Colorado ...*S*	—	—	1 0	—	0 17 0	65,000	Colorado	Abchurch Cham. E.C
N. Consolidated *SC*	—	—	0 5	—	0 3 6	248,576	Nevada	15, Angel-court, E.C
N. Gold Hill......*G*	-/1 -/3	-/1	1 0	—	0 19 9	191,045	N. Carolina ...	15, George-st., E.C.
New Guston ......*S*	11/3 13/9	13/9	1 0	1/- Oct. '92	1 0 0	110,000	Colorado	25A, Old Broad-st.
New Hoover Hill *G*	-/3 -/6	-/3	0 10	-/9 Dec. '88	0 10 0	120,000	N. Carolina ...	Langthorne Ho., E.C.
Palmarejo ... *GS*	1/- 1/6	1/-	1 0	—	1 0 0	4[illegible]8,888	Mexico	4, Copthall-buildings
Pinos Altos (Df) *GS*	6/- 7/-	6/-	1 0	-/6 Mar.' 90	1 0 0	100,000	Mexico	110, Cannon-street.
Do. 15% Cum Pref	—	—	1 0	—	1 0 0	60,000	Mexico	110, Cannon street.
Pittsbg Con. (N) *G*	-/6 1/-	-/6	1 0	1/6 Mar. '88	0 19 0	77,147	Nevada	Suffolk House, E.C
Poorman Con. *GS*	1/6 2/-	1/9	0 5	—	0 5 0	273,948	Idaho	5, Copthall-bgs. E.C
Red Mountain ...*S*	—	—	1 0	—	1 0 0	46,6[illegible]6	Colorado	11, Poultry, E.C.
Richmond ...*GSL*	1/16 5/16xd	8/9	5 0	1/- Nov. '93	5 0 0	54,000	Nevada	44, Coleman-street.
Ruby ... .*GSL*	—	—	0 5	—	0 5 0	221,371	Nevada	22 St. Mary Axe.
Sierra Buttes ...*G*	10/- 12/-	9/-	2 0	-/6 Oct. '94	2 0 0	122,500	California	138, Leadenhall-st.
Do. Plumas Eur. *G*	11/3 13/9	12/6	2 0	-/9 Oct. '94	2 0 0	140,265	California	138, Leadenhall-st.
Springdale.........*G*	1/6 2/-	1/3	$1	2d Aug., 94	$1	1,000,000	Colorado	20, Abchurch Lane.
Twin Lake Placers	—	—	1 0	1/3 Mar. '94	1 0 0	24,564	Colorado	5, Lawrence P. Hl. E C
United Mexican *S*	1/3 1/9	1/3	1 0	2/6 May, '87	1 0 0	906,654	Mexico	3, Gt. Winchester-st.

SOUTH AND CENTRAL AMERICAN MINES.

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par.	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Anglo-Chilian Pt*N*	7 7⅛	7	10 0	4/5 Dec. '89	10 0 0	35,000	Antofagasta ...	123, Bishops.-st. W.
Do. 6% Rylst *MB*	98 100	98	100 0	6% July, '94	100 0 0	£200,000	Antofagasta ...	123, Bishops.st. W.
Antio. (Pref.) *G.S.*	—	—	1 0	-/6 Mar. '90	1 0 0	22,82	Colombia	184, Gresham Ho.
Antioquia (ordiny)	—	—	1 0	—	1 0 0	42,453	Colombia	184, Gresham Ho.
Callao Bis... ......*G*	2/3 2/9	2/-	1 0	—	1 0 0	316,248	Venezuela ..	226, Winchester Ho.
Camarones......... *C*	—	—	2 0	—	2 0 0	67,000	Chili	123, Bishopsgt. W.
Caratal............ *G*	-/6 -/9	-/7	2/6	—	0 2 6	1,330,000	Venezuela ...	57, Moorgate-st. E.C
Caylloma.. ....*S*	1⅛ 1¼	1⅛	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52 Leadenhall street
[illegible] .... *G*	-/6 -/9	-/6	1 0	—	1 0 0	200,000	Colombia	5, Copthall-bdgs., E.C.
Colorado Nit. ...*N*	2¼ 3	2½	5 0	8% Nov., '94	5 0 0	32,000	Chili	17, King-st., Liverp'l.
Colombia...... .....*G*	—	—	20 0	10 frs. Aug. 94	20 0 0	—	Venezuela	Ciudad, Bolivar.
Colombian Hy.. *G*	13/6 14/6	13/6	1 0	1/- Sept. '94	1 0 0	75,000	Colombia	10, Blomfield-street.
Copiapo ....*C*	1 9/16 1 11/16	1 9/16	2 0	1/6 June '94	2 0 0	100,000	Chili	Dashwood House, E C
Darien "A" ......*G*	30/- 30/6	1⅜	1 0	—	1 0 0	49,553	Colombia	Manchester.
Don Pedro.........*G*	5/- 6/-	5/-	1 0	—	0 17 6	133,102	Brazil............	24-5, Devonsh. Cs E.C
El Callao ....*G*	5/- 10/-	5/-	5 0	9¼d Feb. '94	5 0 0	257,600	Venezuela ...	8, Bishopsgt.-st., Wn
Frontino & B....*G*	23/- 25/-	23/-	1 0	1/- Sept., '94	1 0 0	128,662	Colombia	184, Gresham House
			1 0					
Glenrock ....*G*	-/9 1/3	-/6	1 0	—	0 19 6	199,948	Argen. (& Ind	3-5, Queen-street, E.C
Gravel ....*G*	5/6 6/6	5/6	1 0	—	0 19 6	100,000	Colombia	10, Blomfield-street
Guadalupe ......*GS*	3/6 5/-	3/6	5 0	—	1 0 0	120,000	Honduras	11A, Union-ct, Old Brd st
Huanchaca ....*S*	—	—	0 2	4/- Sept. '94	5 0 0	320,000	Bolivia	10, Avnu. d'Alma, Paris
[illegible] ....*C*	-/6 1/6	-/6	1 0	8½% '91	0 2 0	105,234	Nicaragua......	139, Cannon-street.
Julia Taltal ......*N*	1/16 3/16	3/8¼	5 0	—	1 0 0	200,000	Chili	79¼, Gracechurch-st.
Lagunas	6 6¼	5¾	5 0	—	5 0 0	120,00	Tarapaca	3, Gracechurch st.
Lagunas Syndicate	16 17	16	5 0	£5 Oct., '94	5 0 [illegible]	5[illegible],000	Tarapaca	3. Gracechurch st.
Lautaro ....*N*	7⅜ 8¼	8	5 0	5/- June 94	5 0 0	110,000	Chili	70, Gracechurch st.
Liverpool ....*N*	11 12	11	5 0	10 p c Dec. 94	5 0 0	22,000	Chili	Liverpool.
Loma ....*G*	-/6 1/-	-/6	1 0	—	1 0 0	300,000	Colombia	5, Copthall-buildings.
London Nit........*N*	2¼ 3	2¼	3 0	3/4¾ Nov. '89	5 0 0	10,000	Chili	9, Gracechurch-st.
LondonNit.(Pref.)	4¼ 4¾ xd	4½	5 0	8% Nov. '94	5 0 0	22,000	Chili	9, Gracechurch-st.
Macate	2/6 3/-	2/9	0 2	—	0 2 0	200,000	Peru	11, Old Broad-st, E C
New Tamarugal *N*	⅛ ⅜	1/16	1 10	2½p.c. Aug. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
Do. 8% Com Pref	13/16 11/16	13/16	1 10	8 p.c. Aug. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
Do. 6 p.c. Debs ...	79 82	79	100 0	6 p.c. Aug. '94	100 0 0	£260,000	Tarapaca	50, Lime-street, E.C
Orita ....*G*	2/3 2/9	2/3	1 0	1/- April '89	1 0 0	30,000	Colombia	10, Blomfield-street.
Ouro Preto ....*G*	—	—	1 0	—	0 18 6	80,000	Brazil	6, Queen-street-place
Pac. & Jazpampa *N*	4⅛ 4⅜	4⅛	5 0	5/- Aug. '94	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Primitiva ....*N*	2⅛ 3	2⅛	5 0	[illegible]% Oct. '89	5 0 0	40,000	Chili	Liverpool.
Quebrada	3/- 5/-	3/-	3 0	5% Mar. '92	3 0 0	241,956	Venezuela ..	38, Nicholas Lane.
Quebrada .... *C*	40 50	10	Stk.	6% Feb., 94	100 0 0	£100,000	Venezuela ...	38, Nicholas Lane.
Rosario ....*N*	5 5½	5	5 0	5/ Aug. '94	5 0 0	120,000	Chili	57¼, Old Broad-street.
Rosario (6% Deb.	104 106	104	100 0	6% Oct. '94	100 0 0	£475,000	Chili	57¼, Old Broad-street.
St. John del Rey *G*	25/6 26/6	27/-	1 0	10% June '82	1 0 0	284,200	Brazil...........	28, Tower-chmbrs, E.C
San Donato ... ..*N*	2¼ 2¾	2¼	5 0	—	5 0 0	32,000	Chili	12, King-st., Liverp'l
San Jorge ....*N*	5⅛ 6	5⅛	5 0	7/6 Sept. '94	5 0 0	75,000	Chili	9, Gracechurch-st.
San Pablo ....*N*	3¼ 3⅜	3¼	5 0	2½% Nov., '94	5 0 0	32,000	Chili	3, Gracechurch-st

"THE MINING JOURNAL" SHARE LIST—(Continued).

SOUTH AND CENTRAL AMERICAN MINES—(*Continued*).

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov 23, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Santa Barbara ...G	—	—	0 10	1/3 Dec.'88	0 10 0	80,000	Brazil	Liverpool
Santa Elena ...N	⅞ 1⅛	⅞	5 0	5/- Oct.'94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
Santa Rita ...N	3¾ 4¼	3¾	5 0	15% Apr.,'94	5 0 0	20,000	Chili	DashwoodHouse,E.C
San Sebastian ...N	2⅝ 2⅞	2⅜	5 0	5/- Dec,'94	5 0 0	29,000	Chili	DashwoodHouse,E.C
Segovia ...G	—	—	5 0	—	0 4 0	160,000	Colombia	5, Copthall-buildings
S cre Pref. ...G	—	—	1 0	10% July '94	0 15 0	840	Colombia	23, St. Swithin's ln.
Sucre Ord. ...G	—	—	1 0	8% July '94	1 0 0	10,000	Colombia	23, St. Swithin's ln.
Tetuan ...G	—	—	1 0	—	0 19 6	200,000	Colombia	5, Copthall-buildings
Tolima "A" ...S	8¾ 9¼	8½	5 0	10/- Dec.,'94	5 0 0	14,000	Colombia	18, Finsbury-circus.
Do. "B" ...S	7⅛ 8	7½	5 0	10/- Dec.,'94	5 0 0	6 000	Colombia	18, Finsbury-circus.
Vic. & Altamira ...	1/1½ 1/4½	1/-	0 5	—	0 5 0	200,000	Venezuela	Broad-st. Avenue.
West Indian ...G	—	—	0 5	—	0 5 0	700,000	San Domingo	49, Queen Victoria-st
Zaruma ...G	—	—	0 5	—	0 5 0	261,422	Ecuador	1, Gt. Winchester-st.

AFRICAN MINES.

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov 23, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Afrikander ...G	1 11/16 1 13/16	1¾	1 0	—	1 0 0	40,000	Transvaal	19, St. Swithin's lan.
Agnes Block ...G	11/- 13/-	10/-	1 0	—	1 0 0	78,507	Transvaal	54, Old Broad-street.
Alexandra Estate G	5/- 6/-	5/-	1 0	—	1 0 0	225,000	Witwatersrd.	Warnford Court, EC.
Anglo-French Exp	—	1 1/16	5 0	10% Dec. 94	5 0 0	30,000	S. Africa	170, Winchester Ho.
Appantoo ...G	—	—	1 0	—	1 0 0	71,000	West Coast	9, New Broad-street
Aurora ...G	15/- 16/-	14/6	1 0	5% Mar,'93	1 0 0	65,000	Witwatersrd.	8, Old Jewry.‡
Balkis Eersteling G	1/3 1/9	-/6	0 10	—	0 9 6	520,000	Transvaal	85, Gracechurch-st.
Balkis Land ...	4/9 5/3	3/-	0 10	—	0 10 0	520,000	Transvaal	85, Gracechurch-st.
Banket ...G	2/3 2/9	2/3	1 0	—	1 0 0	200,000	Witwatersrd.	Johannesburg.
Bantjes Reef ...G	31/- 32/-	24/-	1 0	—	1 0 0	83,000	Witwatersrd.	Warnford-court.†‡
Barrett ...G	6/6 7/-	4/6	0 10	—	0 9 0	207,495	De Kaap	17, Basinghall-street
Bechuanaland Exp.	29/- 30/-	25/-	1 0	—	1 0 0	200,00	Bechuanaland	19, St. Swithin's-lane
Block "B" Lang.	11/- 12/-	9/-	1 0	—	1 0 0	535,000	Witwatersrd.	8, Princes-st. E C.‡
Booysen Land ...G	1⅛ 1⅝	32/6	1 0	—	0 11 0	95,000	Transvaal	4, Tokenhouse-blds
Do. Pref.	--	—	1 0	8% Mar., 94	0 10 0	71,174	Transvaal	4, Tokenhouse-blds.
Brit. S. A. Char. ...	43/6 44/6	39/-	1 0	—	1 0 0	2,000,000	S. Africa	19, St. Swithin's-lane
Buffelsdoorn ...G	33/- 35/-	33/-	1 0	—	1 0 0	250,000	Potchefstroom	8, Old Jewry.
Buluwayo Synd. ...	⅞ 1 pm	⅞	1 0	—	1 0 0	12,000	Matabeleland	10, Helen's Place.
Cape Copper ...C	1 7/16 1 9/16 cd	1 7/16	2 0	1/3 Jan. '94	2 0 0	300,000	Cape Colony	9, Queen-street-place.
Do. 6% Pref. ...	1⅞ 2⅛	1⅞	2 0	1/3 Jan. '94	2 0 0	45,000	Cape Colony	9 Queen-street-place.
Cen. Montrose ...G	1/- 2/-	1/-	1 0	—	0 18 6	69,000	Transvaal	15, George st Mn. Ho.
Champ d'Or ...G	3 7/16 3 9/16	3¼	1 0	—	1 0 0	118,016	Witwatersrd.	8, Old Jewry, E.C.
Champ d'Or Deep G	19/6 20/6	19/-	1 0	—	1 0 0	275,000	Witwatersrd.	Fox st., Johannesbrg
City and Suburb. G	15¾ 16	15⅝	1 0	25% Mar.'94	1 0 0	75,000	Witwatersrd.	1, Crosby Square.‡
Coetzeestroom ...G	1/- 1/6	1/-	0 5	—	0 5 0	140,000	De Kaap	105, Leadenhall-street
Con. Bultfontein D	26/6 27/6	26/6	1 0	5% Nov.'89	1 0 0	721,500	Griqualand W	62, Lombard-st.
Con. Deep Levels G	3¼ 3½	3	1 0	4/- June '94.	1 0 0	187,250	Transvaal	30, St. Swithin's-lane.
Con. G. Fields S A.	3⅛ 3⅜ xd	3¼	1 0	15% Nov. '94	1 0 0	1,250,00	S. Africa	8, Old Jewry.
Do. 5½% Deben.	106 107	106	5 0	5½ July,'94	5 0 0	600,000	S. Africa	8, Old Jewry.
Crown Reef ...G	9⅛ 9⅜	9	1 0	25% Nov. '94	1 0 0	120,000	Witwatersrd.	120, Bishopsgt st Wn‡
De Beers Consol. D	18⅜ 18⅝	18	5 0	12/6 June '94	5 0 0	789,791	Transvaal	62, Lombard-street.
Do. 5½% 1st Deb.	104½ 105½	105	100 0	5¼% Feb. '94	5 0 0	£1,875000	Transvaal	62, Lombard-street.
Do. 5½% Bul. Ob.	102½ 103½	102½	100 0	5½% Oct. '94	5 0 0	£720,100	Transvaal	62, Lombard-street.
Durban Roodept. G	6⅜ 6⅝	6⅛	1 0	3/- Sept. '94	1 0 0	£125,000	Witwatersrd.	28, Leadenhall-bldgs
East Rand ...G	34/6 35/6	38/	1 0	—	1 0 0	570,000	Witwatersrd	170, Winchester-ho.
Evelyn ...G	11/6 12/6	11/6	1 0	10% Jan.'89	1 0 0	66,000	Witwatersrd.	28, Old Jewry, E.C
Exploration ...	1¼ 1½ pm	1¼	1 0	1/- Dec. '93	0 4 0	149,000	S. Africa	30, S. Swithin's-ln.‡
Exploring Co. ...	6⅜ 6⅝	5¾	1 0	25/- Feb. '94	1 0 0	69,350	S. Africa	19, S. Swithin's-ln.
Ferreira ...G	13 13¼	13	1 0	100% June '94	1 0 0	45,000	Witwatersrd.	120, Bishopsgt st. Wn‡
Forbes Reef (Nw) G	4/- 5/-	4/-	1 0	—	0 19 0	105,000	De Kaap	45-6, Leadenhall-st.
Geldenhuis Deep G	6 6¼	5⅞	1 0	—	1 0 0	265,000	Transvaal	30, St. Swithin's-lane.
Geldenhuis Est. G	5⅜ 5⅝	5¼	1 0	10% Sept. '94	1 0 0	187,500	Witwatersrd.	120, Bishopsgt st. Wn‡
Do. Main Reef	20/- 21/-	20/-	1 0	—	1 0 0	150,000	Witwatersrd.	Warnford-court, E.C‡
George and May G	14/- 16/-	14/-	1 0	—	—	112,750	Witwatersrd.	Warnford Court, E.C
George Goch ...G	1⅛ 1¼	1⅛	1 0	—	1 0 0	100,000	Witwatersrd.	Johannesburg.
Glencairn ...G	3 3⅛	3	1 0	5 p c Aug. 94	1 0 0	200,000	Witwatersrd.	2, Drapers-gardens.
Gold Estates T. ...G	3/6 4/6	3/6	1 0	15% Dec.'89	0 10 0	130,000	Transvaal	46, Queen Victoria-st
Gld. Fls. Deep ...G	2 11/16 3 5/16	2 15/16	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
G. F. of Mashonld.	17 6 20/-	8/9	1 0	—	1 0 0	200,000	Mashonaland	19, St. Swithin's-ln.
G.F. Tierrad' Fuego	3/9 4/3	2/9	0 4	—	0 4 0	400,000	Mosambique	2, Tokenhouse Bldgs.
Grahamstown ...G	14/- 15/-	14/6	1 0	—	1 0 0	150,000	Witwatersrd.	14, Throgmorton-st.
Graskop ...G	2/3 2/9	2/	0 5	2½% Mar. '92.	0 5 0	500,000	Lydenburg	85, Gracechurch-st.
Griqualand W. ...D	6⅞ 7⅛	6⅞	10 0	4% March '94	10 0 0	105,700	Transvaal	62, Lombard-street
Henry Nourse ...G	4⅝ 4⅞	4⅛	1 0	—	1 0 0	100,000	De Kaap	Warnford-court.
Joe's Reef ...G	7/ 8/	7/	1 0	—	1 0 0	57,404	De Kaap	21, Mincing Lane.
Johannesburg Pnr	3¾ 4	3¾	1 0	2½% Nov.,'93	1 0 0	21,000	Witwatersrd.	Johannesburg.
Jubilee ...G	7 7¼ xd	7	1 0	30% Oct. '94	1 0 0	30,000	Witwatersrd.	8, Old Jewry.†
Jumpers ...G	5¾ 6	4⅞	1 0	30% June '94	1 0 0	100,000	Witwatersrd.	120, Bishopsgt st, Wn‡
Kimberley ...D	par ¼ pm	pr ½ dis.	1 0	—	0 10 0	98,672	Kimberley	19, Finsbury circus.
Kimberley Rdpt. ...	26/- 28/-	22/-	1 0	—	1 0 0	125,000	Kimberley	2, Drapers-gardens.
Kleinfontein (N) G	2 3/16 3 5/16	2 15/16	1 0	—	1 0 0	150,000	Witwatersrd.	8, Old Jewry.
Koffyfontein ...D	15/ 17/6	15/	1 0	—	0 5 0	50,000	Jacobsdaal	4, Bishopsgate street

AFRICAN MINES—(*Continued*).

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Langlaagte Est. G	4¼ 4½	4	3 0	2/- Oct. '94	1 0 0	467,000	Witwatersrd.	59, Holborn Viaduct.‡
Do. Royal	4¼ 4½	4 1/16	1 0	5% Sept. '93	1 0 0	100,000	Witwatersrd.	2, Drapers-gardens.‡
Lisbon-Berlyn ...G	3/6 4/0	1/9	2/6	—	0 2 6	889,233	Lydenburg	110, Cannon-street.
London & S. A. Ex.	10¼ 10¾	10¼	0 10	2/6 Sept. '94	0 10 0	100,000	S. Africa	19, Finsbury-circus.
Luipaards Vlei Est.	14/- 15/-	14/-	1 0	6% Mar, '90	1 0 0	319,003	Witwatersrd.	Warnford-court.‡
Main Reef (New) G	14/- 15/-	13/6	1 0	—	0 10 0	300,000	Witwatersrd.	8, Old Jewry.
May Con. (New) G	1 11/16 1¾	1 11/16	1 0	—	1 0 0	430,000	Witwatersrd.	4, Lothbury.‡
Mashon. Agency ...	1¼ 1⅜	1 3/16	1 0	—	1 0 0	100,000	Mashonaland	8, Old Jewry, E.C.
Mashon. Central ...	—	—	1 0	—	1 0 0	200,000	Mashonaland	8, Old Jewry, E.C.
Matabeleland ...	—	—	12/6	—	0 12 6	79,889	Matabeleland	73, Basinghall St., E.C
Metropolitan (N) G	1⅛ 1¼	1⅜	1 0	—	1 0 0	75,000	Witwatersrd.	1, Crosby Square.‡
Meyer & Charl ...G	6⅛ 6⅝	6½	1 0	25% June '94	1 0 0	71,687	Witwatersrd.	Warnford-court.‡
Mines Trust ...	⅝ ¾	⅝	1 0	3% May '94	1 0 0	82,774	So. Africa	130, Winchester Ho.
Modderfontein ...G	5¾ 6	6¼	1 0	—	1 0 0	200,000	Witwatersrd.	Warnford-court ‡
Montrose ...G	⅝ ¾	⅝	1 0	3/- Feb. '90	1 0 0	70,000	De Kaap	65, New Broad-street
Moodies G.&E. ...G	14/6 15/6	10/	1 0	-/4 May '90	1 0 0	240,000	De Kaap	8, Old Jewry ‡
Mozambique ...	17/6 18/6	17/6	1 0	—	1 0 0	400,000	S. E. Africa	Broad-street House.
Namaqua ...C	16/3 18/9	16/3	2 0	2/6 July '91	2 0 0	194,331	Namaqualand.	34, Leadenhall-blds.
New Aurora West G	13/- 14/-	13/6	1 0	5% Mar.,'93	—	30,000	Witwatersrd	1, Crosby Square.‡
New Black Reef ...	1/- 2/-	1/-	1 0	—	1 0 0	76,000	Witwatersrd.	9, King William st.‡
New Chimes ...G	2⅞ 3⅛	2⅝	1 0	5% Oct.,'94	1 0 0	70,000	Witwatersrd.	8, Old Jewry, E.C.
New Clewer Estate	1⅞ 2	1 11/16	1 0	—	1 0 0	100,000	Lydenburg	120, Bishopsgt st. Wn‡
New Crœsus ...G	1 13/16 1 15/16	1⅝	1 0	5% Aug. '92	1 0 0	195,000	Langlaagte	4, Bishopsgt.-st. Wt.
New Edwin Bray	3/- 4/-	3/-	7 0	—	7 0 0	65,000	De Kaap	23, College Hill
New Gordon ...D	4/- 5/-	3/6	1 0	5% Dec. '89	1 0 0	560,250	Griqualand	110, Cannon-street.
New Heriot ...G	7⅜ 7⅝	7¼	1 0	20 p c Sept 94	1 0 0	195,000	Witwatersrd.	1, Crosby Square.‡
New Jagersf. ...D	17¼ 17½	16⅞	10 0	10s. Nov.,'94	10 0 0	100,000	Transvaal	5, Copthall-buildings
New Klerksdorp ...	3/- 3/6	2/9	0 10	—	0 8 0		Transvaal	110, Cannon-street.
New LouisD'Or ...G	6/- 6/6	6/-	1 0	—	1 0 0	100,000	Witwatersrd.	53, New Broad-street
New Primrose ...G	5⅜ 5⅝	5⅜	1 0	20% July '94	1 0 0	230,000	Witwatersrd.	2, Draper's-gardens.
New Rietfontein G	3 3¼	3⅛	1 0	—	1 0 0	160,000	Witwatersrd	Warnford-ct., E C.
New S. Augustine D	1/3 1/6	-/9	1 0	—	0 19 3	234,583	Griqualand W	30-1, St. Swithin's-ln
New Salisbury ...G	3⅜ 3⅝	3⅛	0 10	—	1 0 0	93,000	Witwatersrd.	1, Crosby-square.‡
New Spes Bona ...G	16/- 17/-	17/6	1 0	—	0 14 0	113,801	Witwatersrd	24, N. John-st., L'pl
N. Ophir Concess.	3/- 3/6	1/6	1 0	—	0 18 6	111,857	E. Coast Africa	31, Lombard-street.
New Virginia ...G	4/- 4/6	3/9	0 10	—	0 10 0	48,335	Transvaal	26, Budge-row, E.C.
Nigel ...G	4⅜ 4⅝	4¼	1 0	15% Sept. '94	1 0 0	160,000	Witwatersrd.	1, Crosby-square.
Nooitgedacht E. G	—	—	1 0	—	1 0 0	160,000	Lydenburg	8, Old Jewry.
Oceana ...	2 5/16 2 7/16	1 15/16	1 0	25/- Nov.'89	1 0 0	150,000	Transvaal	4, Sun Court, E.C
Oceana Develpmnt	3/16 1/16 dis	3/16	1 0	—	0 7 6	50,000	Transvaal	4 Sun Court, E C.
Orange F.S.E. ...D	4 4⅛	4	1 0	1/- Sept.,'94	1 0 0	284,000	OrangeF.State	10, Moorgate-street.
Orion ...G	5¼ 5½	4⅜	1 0	10% Nov. '94	1 0 0	30,000	Witwatersrd.	10, Basinghall-street
Otto's Kopje ...D	3/3 3/9	3/3	1 0	—	1 0 0	437,888	Kimberley	110, Cannon-st., E.C.
Paarl Central ...G	25/- 26/-	24/-	1 0	—	1 0 0	138,750	Transvaal	120, Bishopsgt st. Wn‡
Paarl Ophir ...G	—	—	1 0	10p.c. Aug.'94	1 0 0	12,070	Tweffontein	Cape Town
Pardy's Mozambq.	—	—	0 10	10p.c. Apr. 94	0 10 0	13,000	S. E. Africa	Broad St. Avenue.
Piggs Peak, New G	7/6 8/6	3/6	1	—	0 17 0	230,326	Swazieland	6, Queen-street-place
Potchefstroom ...G	5/6 6/6	5/6	1 0	—	1 0 0	161,000	Potchefstroom	19, Bury-st., E.C.
Princess Estate G	1 1/16 1 3/16	1⅛	1 0	—	1 0 0	72,046	Witwatersrd.	33, Cornhill, E.C.
Randfontein ...G	13/6 14/6	14/-	1 0	—	1 0 0	1,916,500	Witwatersrd.	59, Holborn Viaduct.‡
Rand Mines ...G	17½ 18	17¼	1 0	—	1 0 0	332,718	Witwatersrd.	120, Bishopsgt st. Wn‡
Read's Drift ...D	16/3 18/9	15/-	1 0	—	1 0 0	51,000	Transvaal	19, Finsbury circus.
Robinson ...G	7¼ 7½	7¼	5 0	5% Aug. '94	5 0 0	543,750	Transvaal	55, Holborn Viaduct‡
Roodepoort Un. G	4 4¼	3⅞	1 0	10p.c.Aug. '94	1 0 0	100,000	Witwatersrd.	Warnford-court.‡
Sheba ...G	29/- 30/-	28/6	1 0	1/- Sept. '94	1 0 0	614,450	Lydenburg	85, Gracechurch-st.
Silati ...G	5/6 6/-	2/6	1 0	—	0 17 6	625,000	Zoutpansberg.	4, Sun Court, E.C.
Simmer & Jack ...G	10⅜ 10⅝	9½	1 0	10% May '94	1 0 0	85,000	Witwatersrd.	33, Cornhill.
S.A. Gold Trust ...	2 11/16 2 13/16	2 5/16	1 0	15% Nov. '94	1 0 0	220,000	South Africa.	8, Old Jewry.
Spitzkop (New) G	12/6 13/6	10/6	1 0	—	0 19 6	99,070	Lydenburg	15, Bishopsgt-st, Wt.
Stanhope ...G	1¾ 2 xd	2⅛	1 0	50% Sept. '94	1 0 0	34,000	Witwatersrd.	1, Crosby Square.‡
Sutherland R. ...G	18/6 19/6	18/-	1 0	—	0 19 0	220,000	Zoutpansberg.	3, Budge-row, E.C.
Teutonia ...G	15/- 16/-	13/6	1 0	—	1 0 0	96,000	Witwatersrd.	8, Old Jewry.
Thistle Reef ...G	-/6 1/-	-/6	0 5	—	0 4 0	150,000	Barberton	15, Angel-court, E C
Trans. Coal Trust ...	17/- 18/-	17/-	1 0	1/- Sept. '94	1 0 0	439,965	Witwatersrd.	Broad-st. House, E.C
Trans. Est. & Dev.	13/6 14/6	12/-	1 0	—	1 0 0	285,700	Transvaal	76, Old Broad-st. E C.
Trans. Gold Exp. G	3⅜ 3½	3 5/16	1 0	1/- June '94	1 0 0	250,000	Transvaal	Suffolk House, E.C.
Trans. Land ...	7/6 8/6	7/6	1 0	—	1 0 0	79,915	Transvaal	Suffolk House, E.C.
Trans. Land ...	2/6 3/6	2/6	1 0	—	0 15 0	169,999	Transvaal	33, Cornhill.
Treasury ...G	—	—	1 0	7½% May '94	1 0 0	26,000	Witwatersrd.	Johannesburg.
Turffontein Est. ...	—	—	1 0	2½ Jan. 94	1 0 0	4?,007	So. Africa	130, Winchester Ho.
Un. Ivy Reef ...G	1 1/16 1 3/16	1 1/16	1 0	2½ Jan. '94	1 0 0	45,000	Transvaal	110, Cannon-street
U. Langlaagte (N) G	1 5/16 1 7/16	1 5/16	1 0	—	1 0 0	100,000	Witwatersrd.	23, St. Swithin's-ln.
Van Ryn ...G	3 1/16 3 3/16	3⅝	1 0	—	1 0 0	99,810	Witwatersrd.	1, Crosby-square.‡
Victory Hill ...G	—	—	1 0	—	1 0 0	108,000	De Kaap	Portland House, E.C.
Village Main Reef	4⅜ 4⅝	4	1 0	—	1 0 0	132,00	Witwatersrd.	8, Old Jewry.
Wassau ...G	—	—	1 0	—	1 0 0	100,000	Gold Coast	147, Cannon-street.
Wemmer ...G	5⅝ 5⅞	5½	1 0	10% Nov. '91	1 0 0	55,000	Witwatersrd.	19, Bury-street.‡†
Witwatersrand G	2¼ 2½	2 9/16	1 0	—	1 0 0	250,000	Witwatersrd.	19, Bury-st., E.C.
Wolhuter ...G	3⅞ 4⅛	3¾	1 0	—	1 0 0	120,000	Witwatersrd.	Warnford-court.†
Wolverand ...G	⅛ ⅜	⅛	1 0	2/- Apr.,'94	1 0 0	18,750	Transvaal	5, Copthall-buildings
Wolverand ...G	—	—	1 0	—	0 18 0	39,021	Transvaal	5, Copthall buildings
Worcester ...G	3¾ 4	3⅝	1 0	10% Oct. '94	1 0 0	90,727	Witwatersrd.	8, Old Jewry.‡
Zambesia Explora.	3¼ 3½	3	1 0	—	1 0 0	45,000	Transvaal	13, George-st., E.C.

COAL, IRON, AND MISCELLANEOUS COMPANIES.

Name	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s d			
African Gold Recy	1 1¼	1	1 0	10 p c Oct. 94	1 0 0	175,000		23, College Hill, EC
Albion Steam ...	11¼ 11¾	11¼	10 0	10 p c Feb. 94	10 0 0	22,000	Pontypridd	6, Crosby-sq., E.C.
Aluminium, "A"	1⅛ 1⅜	1⅜	1 0	5% Oct. 94	1 0 0	60,000		13, Abchurch Lane
Andrew Knowles ...	12 13	11⅞	50 0	14s Mar. 94	25 0 0	24,400	Pendlebury	Pendlebury, nr Man.
Do do ...	27 31	27	50 0	7/6 July 94	50 0 0	600	Pendlebury	Pendlebury, nr Man.
Do Mort. Debts.	103 105	103	100 0	5 p c July 94	100 0 0	£125,000	Pendlebury	Pendlebury, nr Man.
Arniston ...	23⅞	23⅞	10 0	20s Nov. 94	8 0 0	6,500	Arniston	10, S. Andw-sq Edin.
Ashbury Carr. Co.	16 19	16	50 0	28/- Oct. 92	50 0 0	3,000		Openshaw, Man.
Do do	1¼ 1¾	1¼	11 0	3/3 Oct. 92	6 10 0	9,822		Openshaw, Man.
Aus. Gold Recovry	¼ ⅜	¼	1 0	...	1 0 0	160,000		23, College Hill, EC
Barrow Hem. Ord.	1¾ 2¼	1¾	7 10	3/9 April 94	7 10 0	150,000	Barrow-in-Fur	10, S. Swithin's-lane
Do 6 p.c. Pref. ...	4¾ 5¼	4¾	7 10	4/6 April 94	7 10 0	50,00	Barrow-in-Fur	10, S. Swithin's-lane
Bolckow Vaughan	10¾ 11¼	11	20 0	10s Apr. 94	20 0 0	81,488	York&Durhm.	16, Philpot-lane.
Do do	5¼ 5¾	5⅛	20 0	6s Apr. 94	12 0 0	93,045	York&Durhm.	16, Philpot-lane.
Do 5 p.c. Pref.	21⅜ 21½	21½	20 0	5 p c Feb. 94	20 0 0	23,604	York&Durhm.	16, Philpot-lane,
Cairntable ...	8½	8½	10 0	10 p c Dec. 93	10 0 0	6,?38	Scotland	100, Welling-st, Glas
CalderbankSteel&c	10/-	10/-	10 0	2½ Oct. 91	10 0 0	15,000	Near Glasgow	63, Vincent-st., Glas
Do 6 p c Pref. ...	47/3	47/3	10 0	6 p c Oct. 91	10 0 0	1?,000	Near Glasgow	63, Vincent st., Glas
Cassel Gold Extng	13/9	13/9	1 0	17½% Dec. 93	1 0 0	168,0?0		108A, Hope st., Glas
Do 3rd Issue ...	6/-	6/-	1 0	...	0 15 0	30,000		108A, Hope st., Glas
Consett Iron ...	19 21	19	10 0	9s Aug. 94	7 10 0	100,000	Durham	Consett, Co. Durham
Do 8 p.c. Pref.	10 10⅛	10	5 0	4s Aug. 94	5 0 0	100,000	Durham	Consett, Co. Durham
Cowdenbeath ...	15 15½	15	10 0	15 p c Aug. 94	8 10 0	15,000	Fife	Cowdenbeath, Fife.
Do 5 p.c. Pref.	11½	11⅜	10 0	5 p c Feb. 94	10 0 0	1?,0?0	Fife	Cowdenbeath, Fife
D. Davis and Sons	13¼ 13¾	13¼	10 0	10 p c Aug. 94	10 0 0	45,000	Rhondda	138, Leadenhall-st.‡
Ebbw Vale ...	7¾ 8¼	8 1/16	23 0	10s July 94	20 0 0	69,754	South Wales	122, Cannon-street‡
Do do ...	10½ 11	10½	23 0	1/6 Oct. 94	23 0 0	4,721	South Wales	122, Cannon street‡
Fife Coal ...	30	30	10 0	3 p c Aug. 94	9 0 0	12,000	Fife	Leven, Fifeshire.
Fraser & Chalmers	1⅛ 1⅜	1	5 0	4/- Oct. 91	5 0 0	105,000		43, Threadneedle st.
Gen. Mining Assoc.	5 5½	5	5 10	15/- Apr. 94	5 10 0	27,469	Nova Scotia	Blomfield House, EC
Great Western (A)	8¼ 8¾	8¼	5 0	6 p c Mar. 94	5 0 0	10,000	Pontypridd	35, W. Bute-st., Crdff
Do do (B)	4⅛ 4¾	4⅛	5 0	10 p c June 94	5 0 0	50,000	Pontypridd	35, W. Bute-st., Crdff
Great Wyrley ...	120	120	100 0	...	100 0 0	600	Great Wyrley	Gt. Wyrley, Walsall
Hamstead ...	22 22½	22½	20 0	10/- Aug. 94	20 0 0	5,000	Great Barr	Gt. Barr, nr. Birm.
Do 7½ p c Pref.	34	34¼	20 0	15/- Aug. 94	20 0 0	5,000	Great Barr	Gt. Barr, nr. Birm.
Henry Briggs (A)	14 14½	14	15 0	18/9 Aug. 94	12 10 0	12,965	Normanton	Whitwood, Yorks.
Do do (B)	10 10½	10	15 0	12/9 Aug. 94	8 10 0	11,405	Normanton	Whitwood, Yorks.
International ...	3⅛ 3⅜	3⅛	5 0	2½ p c Sept 94	5 0 0	13,820	Glamorganshr	59, Mt. Strt-sq, Crdff
J. Brown & Co. ...	16¼ 17½	16¼	20 0	7/6 Dec. 94	15 0 0	58,?0	Yorkshire	12, Fnchch-st, EC‡
Do 5 p c Pref. ...	11½ 12	11⅜	10 0	5 p c June, 94	10 0 0	18,000	Yorkshire	12, Fnchch st., EC‡
John Watson ...	12	12	10 0	12s May, 94	8 10 0	13,333	Lanark&Stirlg	23, Vincent-st., Glas
Do 6 p.c. Pref.	12½	12½	10 0	6 p c May 94	10 0 0	6,666	Lanark&Stirl.	127, Vincent st., Glas
Lofthouse ...	6⅞ 7	6⅞	4 0	...	3 0 0	1?,6?8	Lofthouse	Lofthouse, Yorks
Lothian Pref. ...	7⅛	7⅛	10 0	7½ p c May 94	10 0 0	12,500	Scotland	Newbattle Col., Dalk.
Mang. Bnz. & Brass	7¾ 8¼	7¾	10 0	8/- Aug. 94	6 0 0	11,951		73, Lombard st., EC
Marbella ...I	2⅛ 3	2⅛	10 0	8/- Mar. '93	10 0 0	25,000	Spain	78, Queen Victoria st.
Merry Cunningh.	...	...	10 0	...	10 0 0	12,500	Lanark&Renw	127, Vincent-st., Glas
Do 7 p.c. Pref.	11⅛xd	11⅛	10 0	7 p c Nov. 94	10 0 0	£150,000	Lanark&Renw	127, Vincent-st., Glas
Do 5 p.c. Debs.	104½xd	107	100 0	5 p c Nov. 94	10 0 0	11,548	Lanark&Renw	127, Vincent-st., Glas
Morgan Cruc. Pref	12½ 13	12½	10 0	6/- Sept. 94	10 0 0	20,000		Battersea, S.W.
Nanty., Blaina Prf I	72 76	72	62 10	40/- Apr. 94	62 10 0	1,242		5, Qn. Anne's Gate.
Nerbudda Coal & In	⅛ ¼	⅛	3 0	1/- May 89	2 11 0	49,639	India	213, Gresham House
Newport Abercarn	6 7	6	10 0	3 p.c., July, 94	10 0 0	15,000	South Wales	12, Mary Axe
Do Preference	8¼ 9	8¼	10 0	6 p.c., July, 94	10 0 0	7,500	South Wales	12, Mary Axe

Name.	Closing Price, Nov. 30, 1894	Closing Price, Nov. 23, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d			
NewSharlston Pref.	14 15	14	20 0	10s. July, 94	20 0 0	7,500	Yorkshire	110, Cannon-st., E.C
Newton Chambers,	19 20	19	20 0	...	20 0 0	7,975	Near Sheffield	Thorncliff Ironworks
Do 6 p.c. Pref.	20¾ 21¼	20¾	20 0	...	20 0 0	7,348	Near Sheffield	Thorncliff Ironworks
New Vancour. *Coal*	⅜ ⅝xd	⅜	1 0	2 p c Dec. 94	1 0 0	205,000	Brit. Columbia	12, Old Jewry Chm.
Niddrie & Benhar	44/3	45/6	1 5	2/6 June, 94	1 5 0	86,000	Near Edinbrg	4, York-bldgs., Edin.
North's Navigation	2⅛ 3	2⅛	5 0	5s Mar. 94	5 0 0	80,000	Glamorgansh.	8, Gracechurch st.
North's 10 p c Pref	6¼ 6¾	6¼	5 0	5s Aug. 94	5 0 0	10,000	Glamorgansh.	8, Gracechurch-st.
Otis Steel ...	¼ ¾	¼	10 0	12/- Mar. 91	10 0 0	30,000		20, Threadneedle st.
Do. Pref. ...	½ 1½	½	10 0	8/- July 93	10 0 0	20,000		20, Threadneedle st.
Parkgate Iron ...	37 39	37	100 0	30s June, 94	75 0 0	3,000	Yorkshire	Park Gate, Yorks
Pearson Knowles A	48 52	48	50 0	6 p c Sept. 94	50 0 0	4,354	Lancashire	110, Cannon st.‡
Do do B	16 20	16	50 0	10/- Sept. 92	50 0 0	12,230	Lancashire	110, Cannon-st.‡
Penrikyber Ord. ...	5¾ 6	5¾	10 0	10 p c Mar. 94	10 0 0	15,000	Glamorgansh.	Penrikyber, Glamsh.
Do 5 to 7½ p.c. P	7¾ 8¼	7¾	10 0	5 p c Mar 94	10 0 0	20,000	Glamorgansh.	Penrikyber, Glamsh.
Rhymney Iron ...	1⅛ 1¾	1⅛	5 0	3s Aug. 94	5 0 0	131,410	South Wales	26, Martin's-lane, EC
Do New ...	⅜ ⅞	⅛	5 0	2/11 1-5 Aug. 94	4 5 0	68,590	South Wales	26, Martin's-lane, EC
Do 5% Mort D	90 95	90	100 0	5 p c July 94	100 0 0	£175,120	South Wales	26, Martin's-lane, EC
Rich. Evans & Co. A	6 6¼	6	10 0	5s Mar. 94	10 0 0	43,502	Lancs	Haydock, Lancs.
Do do B.	3¼ 3¾	3¼	10 0	2½ p c Mar. 94	5 0 0	15,979	Cheshr&Wales	Haydock, Lancs.
Rosewell Gas Coal	5	5	10 0	...	10 0 0	800	Fifeshire	21, S. Andw-sq., Edin
Do do	6	6	10 0	...	9 0 0	1,700	Fifeshire	21, S. Andw-sq., Edin
Salt Union ...	3⅞ 4¼	3⅞	10 0	6/- Feb. 94	10 0 0	20?,?00		Salters Hall Ct., EC
Do 7 p c Pref.	10½ 11	10½	10 0	7/- Feb. 94	10 0 0	100,000		Salters Hall Ct., EC
Do 4½ D Sk Red	109 111	109	Stk.	4½ p c June 94	100 0 0	£1,000000		Salters Hall Ct., EC
Sandwell Park ...	18⅞	18⅞	1? 0	5 p.c. Aug. 94	10 0 0	15,625	Staffordshire	West Bromwich
Sheepbridge ...A	17¾ 18	17¾	25 0	12/6 Oct. 94	25 0 0	19,933	Chesterfield	Chesterfield.
Do ...B	7 7¾	7	10 0	5s Oct. 94	10 0 0	4,970	Chesterfield	Chesterfield.
Do 5% Min ...C	26½ 27	26½	25 0	12/6 July 94	25 0 0	4,491	Chesterfield	Chesterfield.
Shelton 1st 5% Deb.	85 90	85	100 0	5 p c July 94	100 0 0	£91,800	Staffordshire	122, Cannon-st., EC
Shotts Iron ...	15	15	Stk.	...	100 0 0	£299,210	Scotland	130, George st., Edin
South Hetton Coal	130 135	131	Stk.	10 p c Aug. 94	100 0 0	£100,000	Durham	49, John st., Sundld.
S. Wales Colliery A	10 10¼	10	17 0	4 p c Aug. 94	17 0 0	8,000	Monmouthsh.	4, Sun ct., Cornhill
Do 10% B	4⅜ 4⅝	4⅜	3 0	10 p c Aug. 94	3 0 0	8,000	Monmouthsh.	4, Sun ct., Cornhill
Do 10% New B	2 2⅛	2	3 0	...	1 10 0	5,624	Monmouthsh.	4, Sun ct., Cornhill
Staveley C. & I. A	80 81	80½	100 0	£2 Sept. 94	60 0 0	6,000	Derbyshire	61, King Wm. st.‡
Do do B	11¾ 12¼	11¾	100 0	6/8 Sept. 94	10 0 0	3,100	Derbyshire	61, King Wm. st.
Do do C	81 82	81	60 0	£2 Sept. 94	60 0 0	6,000	Derbyshire	61, King Wm. st.
Do do D	12½ 13	12½	10 0	6/8 Sept. 94	10 0 0	3,100	Derbyshire	61, King Wm. st.
Stewart & Clydesdle	7½ 8	7½	10 0	2/6 Aug. 94	10 0 0	45,?0		41, Oswald st., Glas.
Do 6 p c Cm Prf	11⅛ 11½	11¾	10 0	..	10 0 0	25,000		41, Oswald st., Glas.
Tredegar Iron ...A	4¾ 5	4¾	50 0	10/10 Aug. 92	36 0 0	20,000	Monmouthsh.	28, Queen st., E C
Do do B	7⅛ 8¼	7⅛	25 0	7/6 Aug. 92	25 0 0	10,000	Monmouthsh.	28, Queen st., E C
United Alkali ...	3 3¼	2¾	10 0	4/- March 94	10 0 0	289,34?		Exchange bldgs, Lpl
Do 7 p c Cm Prf	8¼ 8¾	8	10 0	7/- Aug. 94	10 0 0	282,524		Exchange bldgs, Lpl
Do 5 pc M D Red	102 105	102	Stk.	5 p c June 94	100 0 0	£2,500000		Exchange bldgs, Lpl
United Asbestos A	2 2¼	2	5 0	2/6 Mar. 94	5 0 0	10,000		Billiter st., EC
Do Def. B	⅛ ⅜	⅛	5 0	...	5 0 0	10,000		Billiter st., EC
Vickers, Son & Co.	9 9¼	9	10 0	8/- Feb 94	10 0 0	75,000		Sheffield
Do. 5 p c Pref.	105 108	105	Stk.	5 p c Aug. 94	100 0 0	75,000		Sheffield
Wigan Coal & Iron	4⅜ 4⅝	4⅜	10 0	3/- Aug. 94	7 10 0	153,350	Lancashire	6, Strand, WC
Do do	7 7¼	7	10 0	4/- Aug. 94	10 0 0	65,950	Lancashire	6, Strand, WC
Wilson & Clyde ...	9¾xd	10½	3 0	12/6 Oct. '94	3 0 0	40,0?0	Hamilton	157, Vincent st., Glas
Do 7% 1st O. Pref.	13⅜xd	13⅜	10 0	7 p c Nov. 94	10 0 0	1,791	Hamilton	157, Vincent st., Glas
Do 7% 1st O. Pref.	8 9/16xd	8 9/16	10 0	3/6 Nov. 94	5 0 0	2,209	Hamilton	157, Vincent st., Glas
Do 7 p c 2nd O. Pref.	3 9/16xd	3 9/16	10 0	3/6 Nov. 94	5 0 0	1,000	Hamilton	157, Vincent st., Glas

REPORTS FROM THE MINES.

We find it necessary to announce that, owing to the vast numbers of mines, reports, and items of mining intelligence which reach us invariably very late—up to, and frequently after the time of going to press—it is impossible to guarantee the insertion of all of them in the issue in which, in ordinary course they should appear. We always endeavour, however, to make this important feature as complete as possible, and if the secretaries of mining companies, mining captains, and others would kindly make an effort to let their reports, etc., reach us early on Fridays, when it is not possible to let us have them earlier in the week, their doing so would go far to ensure their insertion, and to promote the completeness of our Mining Intelligence.

BRITISH MINES.

GRAVEL GOLD.—L. Scrutton, October 19: Operations during ran No. 9. During the last month we have continued running on the Rica bank, 10 days having been lost owing to slides brought down on the upper ditch by the heavy rains. There has been a good supply of water lately and the bank has increased in height as we worked back. A seam of pipeclay has been exposed, requiring a few extra men to break it up. All ditches and syphons are at present in good condition and giving no trouble.

COOK'S KITCHEN.—Notwithstanding the heavy rains and the increase of water, we have succeeded in sinking the engine shaft 6 feet during the past fortnight. The lode is still improving in appearance, and produces some good stones of tin. We shall proceed with the sinking as rapidly as possible.—Josiah Thomas, Charles Thomas, Thomas Uren.

GREAT LAXEY.—November 28: Although the ground has lately been a little harder than usual, satisfactory progress is being made with the driving of the 295 fathom level north of Welsh shaft, where the only change is a small branch of blind stuff showing occasional specks of blende. The last 4 or 5 fathoms driving of the 278 fathom level north of Dumbell's shaft, I regret to say, have been very disappointing, the lode yielding little or no ore. The end now looks more hopeful, but not yet sufficient ore to value. In order to prove this run of ground still deeper, we have commenced a joint sink and stope about 30 fathoms back from the present forebreast. Though strong and well defined the lode, 10 fathoms, is not rich, the value being about £9 per fathom. In the 266 winze going down about 5 fathoms in advance of the present 278 end, the lode has been good for ore in the past three weeks, averaging £20 per fathom, but, in keeping with the bunchy character of the ground, has in the last day or two fallen off very considerably. The four stopes in sole of this level are respectively worth £18, £9, £12, and £16 per fathom. No change worth mentioning in the 255 end north. We have a good stope just now in the sole of 200 north worth £20 per fathom at a point where the ground is whole to the 215. A small trial now being made at the latter level encourages the hope that there may be a considerable section of ground here of better quality than the average. The middle ground trial winze shows a strong lode, producing blende only; at present worth £9 per ton.—(Signed) W. H. Rowe.

GREEN HURTH.—November 23: Ore in stock October 26, 115 tons 18 cwts., raised for month 15 tons, total 130 tons 18 cwts., ore delivered, deduct, 41 tons 6 cwts., in stock 89 tons 12 cwts. From the above figures you will note that the production of lead for the month has fallen off. This is principally owing to the south end and heading on Annie's vein being poor for some time past. I am pleased to say we are having a daily improvement in these workings, and are now worth 2 and 2½ tons per fathom respectively. The south forehead on west vein has been driven 3 fathoms this month, and, on the whole, has improved for lead, worth to-day 1 ton per fathom. The underhand stope north is worth 1 ton per fathom. The intermediate vein south is poor. I have taken the men from here to drive north on west vein commencing at the foot of the rise. This end is worth for lead 1 ton per fathom. West crosscut at 30 fathom level is being pushed forward.—Watson Gray.

LEADHILLS.—W. H. Paull, November 27: Brown's Vein. The 160 fathom level, north of Jeffrey's shaft, is extended 10 fathoms 4 feet 6 inches. Set to seven men, at 82s. 6d. per fathom. Vein in forebreast 4 feet wide, worth 8 to 10 cwts. of ore per fathom. The same level is now advanced south of Wilson's shaft 18 fathoms 4 feet. Set to six men, at 75s. per fathom. Vein here 4½ feet wide, containing a strong mixture of spar and good patches of lead ore, yielding at present about 10 cwts. per fathom. The winze below the 145 fathom level, south of Wilson's shaft, has been sunk 14 fathoms 1 foot 3 inches, and reached the requisite depth of the 160, when we have some 11½ fathoms yet to drive south to effect a communication with said winze. A joint rise and stope over the 160, south of Jeffrey's shaft, is set to four men, at 42s. 6d. per fathom, where the vein is 4 feet wide, producing 25 cwts. of ore per fathom. No. 2 stope over the 145 north of Jeffrey's shaft is set to four men at 32s. 6d. per fathom, vein worth 25 cwts. of ore per fathom. No. 3 stope over same level north of Jeffrey's shaft set to two men at 35s. per fathom will yields 30 cwts. of ore per fathom. No. 4 stope over ditto north set to four men at 32s. 6d. per fathom will produce 30 cwts. of ore per fathom. The 115 fathom level is extended 32 fathoms 2 feet north of Jeffrey's shaft set to three men at 82s. 6d. per fathom, vein 4 feet wide, composed of dark stone and spar showing a little ore at times, No. 1 stope over this level north is worked out to the 100 fathom level. A new stope No. 2 over same level north of ditto has been set to two men at 40s. per fathom, where the vein is worth 30 cwts. of ore per fathom. The 100 fathom level, now extended 172 fathoms south of Wilson's shaft, is set to four men at 67s. 6d. per fathom. The vein here is of a more promising character than for some considerable time past, being composed of a very kindly stone, well mixed with nice spar, also letting out a little water, and an early improvement may be fairly expected. The crosscut east towards Raik vein at the 100 south of Wilson's shaft is now driven 32 fathoms 5 feet 9 inches, reset to seven men at 120s. per fathom, ground continuing much of the same character. A drift from No. 1 stope above the 100 south of Wilson's shaft has been set to two men at 65s. per fathom, on a branch of the vein which will produce 25 cwts. of ore per fathom. No. 2 stope over drift above the 100 south of Wilson's shaft set to four men at 32s. 6d. per fathom is worth 25 cwts. of ore per fathom. The 85 fathom level, now extended 140 fathoms 4 feet 9 inches south of Wilson's shaft, is set to four men at 67s. 6d. per fathom, vein 4 feet wide, chiefly stone, with a little spar occasionally. No. 1 stope over the 85 south of Wilson's shaft set to four men at 35s. per fathom will yield 40 cwts. of ore per fathom. A stope over the 50 fathom level south of flat rod shaft set to four men at 35s. per fathom will yield 25 cwts. of ore per fathom. A stope over the 35 fathom level south of flat rod shaft set to four men at 35s. per fathom is worth 35 cwts. of ore per fathom. A stope below the 35 fathom level south of same shaft is set to four men at 37s. 6d. per fathom, vein 4 feet wide, worth 70 cwts. of ore per fathom.—Sarrowcole vein. Gripp's adit reset to drive south of George's Roust vein by three men at 77s. 6d. per fathom is extended 83½ fathoms; the vein at this point continues of a strong and promising character, yielding good stones of ore at times, and is letting out a heavy stream of water, a most kindly end. All surface works are being pushed forward regularly.

KILLIFRETH.—November 29: Richard's engine shaft is down 11 fathoms below the 70. We stopped the sinking of this shaft a fortnight ago, and commenced to make the necessary preparations for dropping the 18 inch drawing lift below this level and into a cistern, so as to be able, in case of necessity, to cope with any further increase of water which may occur during the winter months; this work will soon be accomplished. We shall then lay down the air pipes from the compressor to the 70 fathom level and resume the sinking of this shaft by two rock drills. The lode in the 70 west is large and worth for tin and arsenic £15 per fathom. The lode in the 50, west of crossing, is worth £12 per fathom. In this level driving east, the north and south parts have come together, the lode is very large and worth £16 per fathom. These two ends are over 120 fathoms apart, and both driving in entirely unexployed ground. The various other developments and stopes are much as usual.—(Signed) R. A. James.

SOUTH CONDURROW.—November 28: Good progress is being made in sinking Marshall's shaft. We are cutting in north near the bottom of the shaft with the view to see the junction of the flat lode with the engine lode, which we think is not far off. The lode in the rise in the back of the 163 is worth £8 per fathom. The 153 end west yields stones of tin. The stope in the back of the 153 west is worth £9 per fathom. —(Signed) William Rich, William Thomas, Frederick Rich.

SOUTH FRANCES UNITED.—November 27:—Setting report. To rise against Daubuz's shaft above the 246 fathom level west of Pascoe's by six men and three boys with a boring machine at £7 10s. per fathom; lode worth £8 per fathom. A rise above the 246 west of cross course by six men and three boys with a boring machine, at £6 10s. per fathom; lode worth £20 per fathom. Stope in back of this level west of rise is worth £18 per fathom; stoping by 22 men at 4s. 6d. per ton. Stope in back of the 144 fathom level west of Grenville's is worth £9 per fathom; stoping by six men at 3s. 6d. per ton. Stope in back of the 134 fathom level west of Grenville's is worth £10 per fathom; stoping by nine men at 5s. per ton. The 124 fathom level to drive west of Grenville's by 4 men at £9 per fathom; lode worth £12 per fathom. No. 1 stope in bottom of this level is worth £12 per fathom. Stoping by nine men at 5s. 6d. per ton. No. 2 stope in the bottom of this level is worth £13 per fathom. Stoping by six men at 4s. 3d. per ton. Rise in back of this level by four men at £9 10s. per fathom. Lode worth £10 per fathom. Stope in back of this level is worth £11 per fathom. Stoping by four men at 5s. per ton. The 114 fathom level to drive west of Grenville's by four men at £6 per fathom. Lode worth £10 per fathom. Daubuz's shaft to sink below the 150 fathom level to be carried 14 feet long and 7 feet wide, by 18 men, at £28 per fathom. In our tribute department we have 54 pitches working by 150 men on tributes varying from 9s. 6d. to 13s. 4d. in the £, the standard for tin being £39 per ton.—William Hooper, John Opie, Richard Williams, W. H. Richards.

WEARDALE LEAD. — Report on Weardale Company's Mines for week ending November 24: Groverake. Opening Armstrong's old rise from 30 fathom level, this is now up 8 fathoms. Loop level to take water from Rake level, there is no change. The ground is a mixture of spar and stone, but no ore to save. Driving Loop level west, stone and spar mixed, no ore to save. Firestone drift west, a sparry vein, worth 14 cwts. per fathom. Groverake cubic fathom stopes worth 10, 14, 14, 14, 14, 16, and 18 cwts. per fathom. Tribute ore raised for the week 20⅜ bings.—Boltsburn. Opening up north flat from Watt's level, this ground looks fairly well for ore, worth 40 cwts. per fathom. Cross cutting south from old rise above Watt's level; this looks well for flats, and shows small cavities quick in ore. Stope above Watt's level in vein worth 22 cwts. per fathom. Stopes in Watt's level in south flats worth 40, 34, 34, 10, 30, 32, 18, 12, and 18 cwts. per fathom.—Greenlaws. Nattrass Gill drift, stopes worth 15 and 18 cwts. per fathom. —Watson's drift. We have cut a small cross vein in forehead. The vein continues nipped with some ore in it, but none to value. Lowe's drift, vein 3 feet wide, rather heading back to south; the lead part of the vein is worth 8 cwts. per fathom. Lee's sump, stopes worth 45 and 30 cwts. per fathom. Tribute ore for the week 18 bings.—Sedling. Driving E in the 64 level vein is 3 feet wide of spar and rider mixed with ore, end worth 12 cwts. per fathom; stopes above 64 level east worth 16 and 14 cwts. per fathom. The 64 level west is in plate, vein strait, but contains some ore; ore raised for week, 64 tons; ore dressed for week, 74 tons; ore, slag and fume smelted for week, 151 tons, producing 70 tons of pig lead.

COLONIAL, INDIAN, AND FOREIGN MINES.

APPANTOO.—Mining report for month ending September 30.—Harvey shaft. Nothing has been done here this month; only water pumped for crushing purposes in mill.—Swift's adit. Have been and are still working day and night here, going east towards Cawston shaft. Size of lode increased to 9 feet.—George's adit. Have driven a distance east of 10 feet, making a total of 47 feet; and west 10 feet, making a total of 30 feet. Size of lode decreased to 10 feet, The other six, as per last report, have been worked by natives for the last 5 feet of driving, which makes it very troublesome and dangerous.—Cawston shaft. Have let on contract crosscut from shaft to reef at 30s. a fathom. Anticipate intercepting lode in October.—Adit shaft. Have completed the sinking to a depth of 50 feet; will now cross cut to lode with all possible speed.—Essians east. Was unable to finish timbering here this month owing to a run of unsettled ground, comprising some of the reef and a lot of the hanging wall over the flat sheet where the trucks are turned to bring the stone to grass.—Essians west. Have not finished timbering here yet, but am working at it daily with one shift of boys and sending to mill. Thompson's Tunnel. This has been driven a further distance of 10 feet, making a total of 173 feet. Could stope here if necessary, but as we are enabled to keep the mill well supplied with better stone from other places, am not doing so. Size of lode 10 feet.—Worgent's Tunnel. Contractors are now in a distance of 110 feet, and all secure when stone is needed for new mill (or old). All is ready for stoping. Size of lode 8 feet.—Remarks. What is most important and urgently needed here is better appliances for sinking our shaft deeper, and deeper levels opened up, as the surface workings are not so rich as we could expect, owing to a large quantity of the best ore having been extracted by the natives and others. Another important matter to us is that with an air compressor we could go much more quickly through the poorer ground, and when the richer ore shoots were reached we could follow down on them much more rapidly.—Thomas Worgent.

HARQUAHALA.—Copy of Mr. Robert M. Raymond's report for the month of October: Mining department, Bonanza group, ore breaking. During the month 3347 tons of ore have been mined and sent to the mill, coming from parts of the mine as follows. Discovery vein, open cut above 1st level, south. 150 to 175 feet south of old shaft. Considerable siliceous ore from near the surface was taken from this point in the early part of the month averaging $7 to $8 per ton. Work has been suspended at this point for the present. Quite a quantity of ore, lower in grade, can be taken from the hanging and footwall sides, in open cut work latter on. —Discovery vein 3rd level north. This has been extended to a point 120 feet north of the old shaft, supplying 15 to 20 tons daily of $5 to $6 ore in the first half of the month, but later became lower in grade at the north end. Work has been suspended here until this ground can be handled more cheaply.—Discovery vein above 6th level south, No. 2 stope has provided 15 tons daily for the greater part of the month, and the vein has shown a good size, from 3 to 5 feet in width, and assaying $12 to $15. This stope is now being entered from the porphyry stope, and also from No. 1 crosscut on the 6th level, where a raise is being put up. It will continue to supply considerable ore, but which contains some copper and makes very base bullion.—Iron vein No. 1 stope. Above the heading of the 6th level has turned out a good body of ore during the month, the vein running about 4 feet in width of $8 to $10 ore. This ore has cut out completely just over the level and the stope completed, No. 2 stope furnishes a small quantity of $5 to $6 ore, and the best ground is nearly all worked out. No. 3 stope is also completed, except some low grade ore in the roof, and a small bunch of good ore in the lower end. This stope has supplied about 10 tons per day, for part of the month, the ore averaging $5 to $8. —Iron vein, 5th level. A drift was started here on ore which opened into very good ground. The ore rose towards the south, and a stope was opened along it which has supplied 5 tons daily of $8 to $10 ore for the last two weeks.—Iron vein, above 1st level. Just north of the small shaft a stope has furnished regularly 20 tons per day of $6 to $8 ore soft and easily mined, from a vein 3 to 5 feet in width. —Iron vein, 6th level, No. 5 cross cut. A small stope or raise was opened 50 feet from the main drift on fair ore, but continued upwards pinched out.—Prospecting department. 7th level, No. 1 cross cut has been advanced to 186 feet, the last 40 feet being in quartzite. At 150 feet a drift along this has been run 22 feet south, and encounters indications of ore. 6th level No. 5 crosscut, formerly included in 6th level, has been extended to 240 feet from main drift, and near the heading short branches run into the porphyry on the left and into quartzite on the right. Work on both these places has been temporarily suspended. 5th level No. 3 crosscut has been advanced 57 feet, crosscutting into quartzite. Work has been suspended at this point.—Iron vein. Drifts have been started south on the vein on the 1st, 3rd, and 5th levels, to prospect the vein beyond the present workings. The 5th level has been mentioned above. The 1st and 3rd have not encountered anything worth saving yet.—Golden Eagle. 190 tons of ore have been mined during the month, and hauled to the mill. The last 60 tons assayed as follows: 35 tons, $29 35.; 25 tons, $23·15. The shaft has been sunk 22 feet during the month, reaching a depth of 67 feet below the Tunnel level. Ore valued from $6 to $8, continues to the bottom of the shaft, varying in width from 6 inches to 2 feet. The south drift has been advanced 49 feet during the month, and has reached a length of 234 feet. The month's work has shown a marked improvement, and a streak of ore a few inches in width at the top and 2 feet at the bottom has been followed 25 or 30 feet, varying from $5 to $20, with some rich spots.—Milling department. The batteries were in service 29 days. Ore crushed 3273 tons, total clean up for September and October yields from bullion $34,400, estimated proportion for October $14,000, add profit from store $500, total $14,500. Expenses on revenue account $12,000, total $2100.—8th level No. 5 crosscut. The wood supply is being increased both at the mine and at Harrisburg. The pumping plant and all the other departments are in very good working order.—Note by London office: It will be observed that the foregoing report gives no explanation of the smallness of the October results, and the discrepancy between the interim and final figures, and in his accompanying letter Mr. Raymond is at a loss to satisfactorily account for it. Probably the prevalence of copper in the ore dealt with was partly responsible for the difference, and the change of management during the currency of the month no doubt led to some slight disorganisation at the mine, which must be allowed for. The board are glad to report the receipt of the following cable information from Mr. Raymond dated 22nd November: Mine is looking better.

LA PLATA.—Mr. Niness, the superintendent for the Gold Fields of Mozambique Company reports: Inhamcara. The Inspector-General, Mr. Peffau, has inspected our meneses and alluvial claims. Pannings from two of the meneses reefs and also from the alluvial claims made in Mr. Peffau's presence all showed rich gold. I have had a hut built on the meneses property, roads made and a bridge put over the Inhamcara River. A cutting has been made for a drive across the strata to intersect the three reefs at a depth of 100 feet from the crest of the hill.—Tiger. Have made a proper survey of this property showing the point of contact of the Guy Fawkes reef with the large dyke of greenstone. Our reef is a continuation of the Guy Fawkes reef thrown round to the north by the greenstone. Mr. Peffau considers the Tiger should prove one of the richest properties in the district.—M'Combies and Ruperi districts. Before this letter reaches you I shall have visited and prospected a great portion of these districts. Wherever I find the strata favourable for gold, diamonds, or anything valuable I shall pitch my tent here and prospect.—Lion Mine. The manager reports progress for the month of September; No. 1 drive 21 feet, total advance 153 feet. The ground has become very hard; it is highly mineralised, carrying a large percentage of quartz. No. 2 drive 48 feet, total advance 91 feet. I shall prove the large mass of reef (quite 30 feet) we have passed through here by driving east and west.—Leadville Mines. Mr. Argall reports progress for the six months to September 30, namely, ore output 270½ tons, value $3445.71. Development work, 380 feet of drifts, and 35 feet in winzes.

NEW LOUIS D'OR (Main Reef).—The following is from the last report of the manager at the mines:—Development. We are pushing on the timbering of the shaft as fast as possible, and have commenced from 40 feet below collar of shaft, proper mine sets of timber 6 inches by 6 inches every 5 feet and boarded up. After that we shall have to fix the ladder and board it up, that will then act as a flue to clear the smoke from the blasting which now takes about two hourse to clear, but we blast in the evening as a rule. The rock below the 40 feet is very hard, and does not require timbering, so we shall be able to do without it until we strike the reef at 160 feet, when we shall have to go underlay and then have to use timber. I have still the same opinion of the property, and shall do my utmost to make it a success.

TOWERS HILL (Charters Towers, Sept. 29).—Extracts from manager's fortnightly report, August 4:—Started to drive on south side of crosscut and have driven 8 feet, reef 14 inches thick, carrying gold and mineral.—August 18: The drive has been extended 8 feet during the fortnight. Reef continues same as last report.—September 1: Have been engaged under hand stoping, and have raised 4 tons, quarts showing fine gold.—September 15; I have continued the underhand stope during the fortnight, but will have to knock off on account of the water. The work done here has, however, proved the existence of a distinct reef between the Contest and London formations, as I holed through in the roof of the drive to old workings on the Contest, and have during the last two months tapped both formations in four different places.—September 29: During last fortnight I have been engaged timbering and securing the mouth of the tunnel, and have also surveyed the working with a view to selecting the site of the proposed shaft, and I think the best position would be at the head of the Reservoir Gully. A little higher up and to the eastward of the site chosen by Mr. Surveyor Missingham, as a road would be easier made for the conveyance of quartz and material to and from the mine. A fossicker opened up a new reef on the eastern side of the mine, near the Pyrites Works. This reef appears to be running east and west and dips to the north. The stone is 6 to 9 inches thick, showing nice coarse gold. The fossicker referred to was of course disgusted to find he was working on our holding.

SUTHERLAND REEF.—Leydsdorp, November 1:—Winze in west drive. This has now been connected with the 210 feet level, and a station for the windlass is being cut in the hanging wall preparatory for further sinking to the next level.—Winze in east drive has been sunk 22 feet. The reef is the same as at last report. I have started driving east on the 210 feet level.—Main shaft has been sunk 14 feet, making 299 feet in all. The reef here continues the same as last week.

WENTWORTH EXTENSION.—Report dated October 20: Main shaft east cross 150 feet level driven 9 feet, cutting several calcite seams, with prospects in fine gold. South-east drive from east cross cut extended 10 feet, total length 43 feet, without change. Alluvial shaft, main drive, ran and timbered to a point 42 feet from drive. Progress for week 10 feet, Gravel prospects well.

AFRICAN CONSOLIDATED LAND AND TRADING.—The following report has been received from the manager:—I consider the property is all that one can desire, and, if well worked, should bring a large revenue. The railway runs about 5 miles through your property. It will be open in about three weeks' time. The nearest station is about 5 miles from here, but in time I feel sure I shall get a station on the property, and I am trying hard to get one as soon as possible.—Coal. The railway people have loaded up some trucks, and I am informed they like the appearance of the coal very much indeed. I have great confidence in the quality of the coal, especially for steam purposes, but I hope to report more fully on this in my next.—Shaft. I went down on Tuesday last to the distance of about 67 feet. We are still sinking the No. 1 shaft, and hope to come into a better quality of coal even than that at present.—Timber. I consider this a very important thing, especially for mining, and the trees that have been put in are doing well, and especially those grown from seeds. I intend putting in a quantity at once. I am quite confident that with such splendid soil and climate as here you can grow anything. I drove over your property last Wednesday, and was very much surprised with the land—it is so rich.—Farming. One cannot make a mistake in giving this great attention, especially in the valley everything is looking indeed grand. The cattle are in magnificent condition, and there is plenty of grass and moisture even after such a dry season.—Quarries. The stone is of exceptionally good quality, and should command a big market when the rail is right through. It is a fine stone for building purposes. The railway has used it in building official residences, and I am of opinion when the line is open it will be greatly used. I am pleased to say that you have a very valuable farm indeed, and well managed, and it cannot but turn out a success. My time has been much occupied since my arrival, but after a short time I shall be in a position to report at greater length.

ARGENTINE CONCESSIONS.—Latest advices from Mr. F. B. Doering are dated La Carolina, October 16: He reports—Prospecting. At last I have some favourable news to give you on this head. On the road to the new Carolina mine, about 2 kilometres from here, a rather curious hill may be seen, called "the Bird Mountain," owing to the number of birds which take up their abode on the hill side. It was evident this would not be the ordinary slate rock of the country, and in consequence, a few days ago, I went to the hill to examine it, and found it to consist of "trachyte." I broke off a stone or two from rather a rusty portion, and had them crushed and panned. I was pleased to find about 7 ounces of sulphide of silver to the ton of stone. This is a valuable silver ore, as it contains about 85 par cent. of pure silver, and may contain gold. I am taking eight samples from different parts of the hill for assaying, and will let you know the result as soon as possible. The trachyte extends over one side of the valley and partly over the other, to the top of the hill. As this little valley is rich in alluvial gold, and there are no reefs or lodes possible, I naturally imagine that the trachyte is the source of the gold. The mining and crushing can be done very cheaply.—Alluvial in Carolina River. I have repaired the old water channel and constructed a new strong dam across the river, which I hope will be able to resist ordinary floods. This has enabled me to get down to the bedrock in a portion of the river, where I have found payable alluvial. I have also made some trials on the triangular piece of land between the Carolina River and the two small streams coming from the Tomolosta Mountain. This also shows payable alluvial. I hope to make small returns of gold in a few weeks. A cablegram received 22nd November states a small consignment of gold will be dispatched to London at end of month.

ALAMILLOS.—Mine report dated November 21: In the 85 fathom level, driving west of Taylor's engine shaft, the lode has a better appearance, and yields stones of lead. It is now valued at ½ ton per fathom. The lode in the 160 west of the same shaft, worth ½ ton per fathom, continues wide, and produces a little lead. The 100 east of Judd's engine shaft is being driven through a hard bar of unproductive ground. Carillo's winze, sinking below the 145 fathom level. The lode has fallen off a little in value and is now estimated at 1 ton per fathom.

BRILLIANT BLOCK.—Mine manager's report, fortnight ending September 21. Underlie shaft deepened 12 feet, total below No. 6 plat 50 feet. Reef 20 inches thick of 15 dwts. stone. No. 6 level west extended 18 feet, total from shaft 97 feet. Reef in face 1 foot thick of 10 dwts, stone. We are stoping on a reef from 1 to 3 feet thick of 15 dwts. No. 6 level east extended 20 feet, total from shaft 111 feet. Reef is 1 foot thick of 15 dwts. stone. We are also stoping on a reef from 2 to 3 feet thick of from 16 to 18 dwts. stone. No. 5 level west extended 18 feet, total length 314 feet. The reef is 3 feet thick of 10 dwts. stone.—No. 5 level east. No. 1 winze deepened 22 feet, total depth 48 feet. Present reef 2½ feet thick and still showing stone underfoot of about 16 to 18 dwts. The hanging wall drive extended 49 feet and holed into main footwall drive. We are stoping on a reef from 2 to 4 feet thick of 15 to 20 dwts.—No. 4 level west. Stopes over hanging wall drive show reef from 1 to 1½ feet thick of 25 dwts. stone. Footwall stopes show reef 2 feet thick of 1 ounce stone. No. 3 winze to hole into No. 5 east stopes deepened 28 feet, total depth 46 feet. Stone raised 1150 tons. Stone crushed 1187 tons, for 884 ounces 3 dwts. of gold.

CHAMPION REEF.—Fortnightly report of Captain James Rowe, superintendent, dated November 5:—Dalyell's shaft. Rise in back of 685 feet level south of shaft has been put up 7 feet, total height, 31 feet 9 inches. Lode 1 foot wide, assaying 15 dwts. 6 grains of gold per ton.—Garland's shaft. This has been sunk 11 feet, total depth, 803 feet. Lode 1 foot 3 inches wide, assaying 4 ounces 1 dwt. 5 grains of gold per ton. The 740 feet level north of shaft has been driven 29 feet 6 inches, total length 111 feet. Lode 3½ feet wide, assaying 2 ounces 3 dwts. of gold per ton. 740 south driven 25 feet, total length, 68 feet 6 inches. Lode 1 foot 3 inches wide, assaying 1 ounce 17 dwts. 17 grains of gold per ton. The 630 feet level north of west cross cut driven 28 feet, total length, 306 feet 9 inches. Lode 1 foot 6 inches wide, assaying 1 ounce 2 dwts. 3 grains of gold per ton. No. 3 rise in back of level risen 16 feet, total height 27 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 6 dwts. of gold per ton. The 530 feet level north of west crosscut driven 30 feet 6 inches, total length 779 feet 3 inches. Lode 4 feet wide, assaying 2 ounces 5 dwts. 21 grains of gold per ton. No. 5 rise in back of level risen 4 feet 6 inches, total height 45 feet 6 inches. At this point we met with the east and west dyke seen in level, and have driven north on west side of same 11 feet and met with the lode, which is 4 feet wide, assaying 1 ounce 16 dwts. of gold per ton. No. 6 rise risen 16 feet, total height 46 feet 6 inches. Lode 3½ feet wide, assaying 1 ounce 13 dwts. 15 grains of gold per ton. No. 2 winze below level sunk 5 feet 6 inches, total depth 8 feet 6 inches. Lode 3 feet wide, assaying 2 ounces 2 dwts. of gold per ton. 440 feet level north of west crosscut driven 30 feet, total length 699 feet 3 inches. Lode 3½ feet wide, assaying 1 ounce 18 dwts. of gold per ton. No. 5 rise in back of level risen 12 feet 6 inches, total height 47 feet 6 inches. Lode 2 feet wide, assaying 1 ounce 13 dwts. 8 grains of gold per ton. No. 3 winze below level sunk 5 feet, total depth 29 feet. Lode 3 feet wide, assaying 1 ounce 17 dwts. of gold per ton. No. 4 winze below 340 feet level north of west crosscut sunk 15 feet, total depth 54 feet 6 inches. Lode 4 feet wide, assaying 1 ounce 19 dwts. 10 grains of gold per ton. No. 3 winze sunk 21 feet 6 inches, total depth 96 feet. Lode 4 feet wide, assaying 2 ounces 2 dwts. of gold per ton.—Ribblesdale's shaft. This has been sunk 4 feet 3 inches, total depth 585 feet 6 inches. We have suspended the sinking of this shaft until we get the necessary timber in for bearers of plunger lift, &c., and have put the rock drill to drive the 540 feet level south of shaft. This has been driven 5 feet, total length 31 feet 9 inches. The lode in the present end is 3 inches wide, assaying 1 ounce 3 dwts. 12 grains of gold per ton. 540 north driven 20 feet 3 inches, total length 207 feet 3 inches. Lode 1 foot wide, assaying 1 ounce 7 dwts. of gold per ton. The 440 feet level north of crosscut driven east of 440 south of shaft has been driven 11 feet, total length 15 feet 9 inches. At this point we met with back of shoot, and are now sinking on same. The winze has been sunk 13 feet. Lode 3½ feet wide, assaying 1 ounce 14 dwts. of gold per ton. 440 south of crosscut driven 22 feet, total length 41 feet 9 inches. Lode 2 feet wide, assaying 1 ounce 4 dwts. 20 grains of gold per ton. Winze below 440 feet level north of winze sunk below the 340 feet level north of shaft, on south part of fold, has been sunk 10 feet 6 inches, total depth 86 feet. Lode 3½ feet wide, assaying 1 ounce 10 dwts. 9 grains of gold per ton. No. 2 rise in back of 340 feet level, north of east cross cut at 340 south, risen 18 feet 6 inches, total height 92 feet 6 inches. Lode 3 feet wide, assaying 12 dwts. 17 grains of gold per ton. No. 3 rise in back of south level risen 12 feet 3 inches, total height 33 feet 3 inches. Lode 3 feet wide, assaying 1 ounce 13 dwts. of gold per ton.—Carmichael's shaft. The bringing down of the incline shaft to the lode at the 440 feet level is being proceeded with as fast as possible, and we are making fairly good progress. The 315 cross cut west of shaft has been driven 21 feet, total length 572 feet. The strata is of a more favourable character. The rise in back of the 225 feet level north risen 8 feet 6 inches, total height 31 feet 9 inches. Lode 2 feet wide, assaying 12 dwts. 9 grains of gold per ton.—Rowe's shaft. The 415 level north of shaft has been driven 15 feet, total length 21 feet. Lode 2½ feet wide, assaying 3 ounces 13 dwts. of gold per ton. 415 feet level south has been driven 13 feet 6 inches, total length 19 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 17 dwts. 5 grains of gold per ton. Winze below 315 south of shaft sunk 9 feet 6 inches, total depth 98 feet 6 inches. Lode 2 feet wide, assaying 1 ounce 13 dwts. 19 grains of gold per ton.—Stopes Dalyell's shaft. Stope in back of 685, south of 620 north winze, cut 8 fathoms 2 feet. Lode 2 feet wide, assaying 1 ounce 2 dwts. of gold per ton. Stope in bottom of 620 south of south winze cut 6 fathoms. Lode 2 feet wide, assaying 15 dwts. 12 grains of gold per ton. Stope north of winze cut 7 fathoms. Lode 2½ feet wide, assaying 18 dwts. of gold per ton. Stope in back of 620 north of Garland's 530 south winze cut 23 fathoms 4 feet 3 inches. Lode 7 feet wide, assaying 1 ounce 6 dwts. of gold per ton. Stope in back of 620 north of north rise cut 13 fathoms 3 feet 6 inches. Lode 7 feet wide, assaying 1 ounce 14 dwts. of gold per ton. Stope south of rise cut 9 fathoms 2 feet 9 inches. Lode 5 feet wide, assaying 19 dwts. 10 grains of gold per ton. Stope in back of 620 north of 530 south winze cut 9 fathoms. Lode 3 feet wide, assaying 1 ounce 8 dwts. 9 grains of gold per ton. Stope in back of 530 north of north rise cut 15 fathoms 4 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 16 dwts. 11 grains of gold per ton. Stope south of rise cut 15 fathoms 4 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 4 dwts. of gold per ton. Stope in bottom of 440 north of north winze cut 1 fathom 5 feet. Lode 3½ feet wide, assaying 1 ounce 10 dwts. of gold per ton. Stope south of winze cut 4 fathoms 6 inches. Lode 3 feet wide, assaying 1 ounce 12 dwts. of gold per ton. Stope below 440 south, south of winze, cut 2 fathoms 1 foot 9 inches. Lode 1½ feet wide, assaying 1 ounce 3 dwts. 18 grains of gold per ton.—Garland's shaft. Stope in back of 530 south, south of rise, cut 9 fathoms 2 feet 3 inches. This is suspended. Stope in back of 530 south of No. 2 north rise cut 15 fathoms 2 feet 6 inches. This is suspended. Stope in back of 530 north, north of No. 3 north rise, cut 6 fathoms 2 feet. Lode 2 feet wide, assaying 1 ounce 12 dwts. 8 grains of gold per ton. Stope in back of 440 north of south rise cut 2 fathoms 1 foot 3 inches. Lode 1½ foot wide, assaying 1 ounce 15 dwts. of gold per ton. Stope north of No. 2 north rise cut 1 fathom 9 feet 9 inches. Lode 3½ feet wide, assaying 1 ounce 13 dwts. of gold per ton. Stope south of No. 4 rise cut 8 fathoms 1 foot 3 inches. Lode 2 feet wide, assaying 1 ounce 5 dwts. of gold per ton. Stope in back of 340 north of south rise cut 2 fathoms. Lode 1½ feet wide, assaying 18 dwts. 20 grains of gold per ton. Stope in back of 240 north, north of No. 2 rise, cut 14 fathoms 4 feet 6 inches. Lode 4 feet wide, assaying 1 ounce 13 dwts. of gold per ton. Stope south of No. 1 rise cut 6 fathoms 1 foot 9 inches. Lode 2½ feet wide, assaying 1 ounce 6 dwts. of gold per ton.—Ribblesdale's shaft. Stope in back of 340 north on fold cut 3 fathoms 2 feet 3 inches. Lode 12 feet wide, assaying 1 ounce 11 dwts. 15 grains of gold per ton. No. 1 stope below 240 north of north winze on fold cut 7 fathoms. Lode 5 feet wide, assaying 1 ounce 6 dwts. of gold per ton. No. 2 stope cut 5 fathoms 3 feet 6 inches. Lode 8 feet wide, assaying 1 ounce 10 dwts. 9 grains of gold per ton. Stope in bottom of 200 south of 240 north rise cut 5 fathoms 3 feet. Lode 3 feet wide, assaying 1 ounce 15 dwts. 5 grains of gold per ton. Stope in bottom of 200 north of 240 south rise cut 4 fathoms. Lode 2 feet wide, assaying 1 ounce 14 dwts. of gold per ton. No. 1 stope south of No. 1 rise in back of 240 south cut 2 fathoms 1 feet 6 inches wide. Lode 2 feet wide, assaying 1 ounce 6 dwts. of gold per ton. No. 2 stope cut 1 fathom 3 feet. Lode 4 feet wide assaying 1 ounce 5 dwts. of gold per ton. No. 1 stope north of No. 2 rise cut 7 fathoms 2 feet 6 inches. Lode 5 feet wide, assaying 14 dwts. 3 grains of gold per ton. No. 2 stope cut 3 fathoms 2 feet 4 inches. Lode 3 feet wide, assaying 1 ounce 12 dwts. 17 grains of gold per ton.—Carmichael's shaft. Stoping outside of 225 north of shaft cut 2 fathoms 1 foot 9 inches. Lode 2½ feet wide, assaying 1 ounce 3 dwts. 8 grains of gold per ton. The above stoping is for October month.—Returns. During October month 3895 tons of quartz were stamped, which produced 5380½ ounces of gold. 1050 tons of tailings were treated, which produced 223 ounces of gold. A total yield of 5603½ ounces of gold.

CHIAPAS.—Mining report for fortnight ending Oct. 16: During the fortnight we were working half time pump and two drills. Providencia Aver driven 11 feet 6 inches, total 153 feet. Still continues to hold its own, and neither worse nor better. Sylva cross cut driven 5 feet 6 inches, total 34 feet. Taylor's cross cut north east driven 5 feet 6 inches, total 131 feet. No change. Providencia south hill cross cut No. 2 driven 19 feet 6 inches, total 140 feet. No change.—Copper Creek cross cut west. No. 2 driven 3 feet, total 89 feet 6 inches, in very hard ground. Taylor main (extension of) driven 14 feet, total 478 feet.—Taylor No. 3 stope. Winze sunk 3 inches, total 9 feet. Struck dyke rock.—Santa Fe Hill. No. 2 driven 29 feet, total 96 feet, or with cross cut 120 feet 6 inches. Assays 4 dwts. 12 grains gold, 2 ounces 16 dwts. 12 grains silver, 95 per cent. copper. Holed through hill, commenced another drift some 40 feet below on south side of hill or Santa Fe Hill drift No. 3.—Copper Creek. Acigas cross cut 9 feet, sampled throughout assays 4 dwts. gold, 16 ounces 14 dwts. silver, and 4·16 per cent. copper.—Extracted: Providencia Aver 4½ tons, Santa Fe stopes 313 tons.—Assays: 11 dwts. 12 grains gold, 6 ounces 16 dwts. 12 grains silver, and 4·02 copper. Taylor No. 3 7 tons. Providencia open cut 430 tons. Assays 11 dwts. gold, 8 ounces 12 dwts. silver, and 6 per cent. copper. Santa Fe Hill 13½ tons. Assays 1 ounce gold, 10 or 12 dwts. silver, and 7·61 per cent. copper.

DON PEDRO.—Maquine Mine monthly report for October:—During the month sinking has been carried on satisfactorily, the ground throughout being hard sandstone, which requires blasting. Shaft sunk for the month 2 fathoms (see section 32), distance sunk under the 60 up to date being 5 fathoms. The surrounding ground is becoming drained as the shaft is advanced in depth.—New adit. Since my last a great change has taken place in the ground, which has become very hard for excavating, and for the last 18 feet it has been necessary to use blasting material, in consequence of which less ground has been driven for the month 10 fathoms 4 feet 6 inches.—Gold raising. The 60 east has been advanced 6 feet, see section 32. The lode is large, and has a very encouraging appearance, but it is of low quality. The ground is very wet as might be expected, and this makes progress slow, but evidently it is draining the ground in the near vicinity. In the coming month another drivage will be driven south of east from this to prove all the southern ground, and to lay it open for stoping operations.—60 north, see section 32. Here the lode is of good quality, but slow progress has been made in consequence of the ground being very wet, but by pushing on the sinking of the shaft with all possible speed, we hope to drain this point of operation. Driven for the month 1 fathom 2 feet.—Rise from the 60 north, see section 32. So far this has been risen in a rich bunch of mineral towards the 50 horizon on an angle of 27°. We intend to continue this incline rise to the 50 horizon, when we will communicate with the 60 north, after which a large section of ground will be laid open from the 50 to the 60 for stoping operations. From the north rise throughout the month very rich mineral has been extracted, and some very fine pieces of gold obtained. This would have been extended on boxwork had not the wet state of the ground prevented us from so doing, and I might here add that all operations in hand have to be conducted with the utmost possible care, therefore the deeper the drainage the less cost is attached to extracting the mineral, and greater speed is effected. Risen for the month 6 feet.—50 fathom horizon. 50 north drivage. This has been advanced 1 fathom 1 foot. See section 32 in footwall part of the lode. General work is of a very fair standard. Over the back of drift we have lode which will be extracted when stoping is resumed. At forebreast the lode is the full size of the drivage, with a very promising appearance. From this driving we have driven west on the line of gold (see section 31 and 32) 1 fathom 5 feet. So far as extracted the line is rich but rather small, though well defined.—Morro de Santa Anna. The clearing of the deep adit is now completed.—Drivage from Bawden's shoot. For the month this has been driven 10 feet 10 inches in lode. Samples taken show good general work of free gold, which can easily be treated at the entrance of the deep adit by a canon and an amalgamation plate with very little cost.

D'ARCY ESTATES.—Report dated October 20: Main shaft sunk 12 feet, total depth 148 feet, without change. Prospecting shaft, portion three, at a depth of 50 feet have commenced to drive southward, following a vein 8 inches wide, prospecting 2 ounces per ton gold.

FORTUNA.—Mine report dated November 21: Canada Incosa Mine. In the 110 fathom level driving west of San Pedro's shaft, worth ½ ton per fathom, the lode is wider and stronger and turns out some lumps of ore.—Los Salidos Mine. The lode in the 200 fathom level driving east of Taylor's engine shaft has increased in size and continues fairly productive, being now valued at 1 ton per fathom. In the 105 east of Palgrave's shaft the lode is small and without value.—Luca's winze sinking below the 92 fathom level. This winze is down to the 105. The lode is regular and compact, and is valued at ½ ton per fathom.

GOLDEN GATE (California).—The following are extracts from a letter, dated November 6th, received from Colonel Frank McLaughlin, the company's general manager at Oroville:—Since my report of October 5th the sinking of the incline was steadily continued until Nov. 3rd, on which date a depth of 95 feet had been reached. At 10 p.m. on the 3rd the water came in at the bottom of the incline at such a rate that work had to be entirely confined to baling, and this was continued until five p.m. yesterday (the 5th), at which time the water had been lowered 28 inches, thus proving that the inflow could be easily handled with a small pump, or even by baling with steam or electric hoist. The water raised about 6 feet in the bottom of the incline, and, I believe, comes from the casing of a large ore body. Ledge followed below the adit level has steadily improved in strength and permanence, and at the bottom of the incline is from 18 to 24 inches in width, and assays give $9 per ton gold. I expect to have the steam plant set up within ten days, when we will pump out and sink the incline 15 feet deeper, thus giving a 10 feet sump below the level, at which we will start a drift north and south. This level will be 100 feet below adit, and 230 feet from surface. As soon as the steam plant is in operation work will be kept up steadily. In conclusion, I have to say that the character of the ledge, amount of sulphurets it carries, its increase in width with depth, and the water lately encountered, are all most promising indications.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending November 5: Oriental lode, south shaft. The 470 feet level north of shaft has been driven 4 feet 3 inches, total length 142 feet 6 inches. Lode 3 feet wide, carrying 1 foot 4 inches of quartz, assaying 18 dwts. of gold per ton. 470 south driven 5 feet 6 inches, total length 159 feet 6 inches. Lode 3 feet wide, carrying 1½ foot of quartz, assaying 17 dwts. of gold per ton. The 380 feet level north of shaft has been driven 4 feet 2 inches, total length 242 feet 3 inches. Lode 1½ feet wide, carrying 6 inches of quartz, assaying 12 dwts. of gold per ton. 380 south driven 6 feet, total length 242 feet 4 inches. Lode 3 feet wide, carrying 8 inches of quartz, assaying 1 ounce 10 dwts. 9 grains of gold per ton. The 280 cross cut east of shaft has been driven 5 feet 6 inches, total length 285 feet 6 inches. We are meeting with branches of quartz in this end yielding a little gold.—Prospecting work. This is being pushed ahead but we are hindered a little by influx of water, owing to heavy rains we have had during the past few days. A report on this work is being sent by this mail.—Mill and compressor. The mason contractor is pushing on with the necessary foundations for these as fast as possible, and fairly good progress is being made.

KEMPINKOTE.—Superintendent's report for the fortnight ending 5th November: Garland's shaft. We have completed the timbering of this shaft to the 245, and have sunk 3 feet, making a total depth of 248 feet 6 inches. The coolies are now engaged in sinking the shaft, and cutting the bottom plat. 245 feet crosscut east has been driven 4 feet 8 inches, making a total distance of 18 feet 8 inches. The face of the crosscut is in schist.—183 feet drive north. Our coolies have been engaged in taking up bottom and putting in tramroad, &c., preparatory to putting a machine in this drive, which has been done to-day. The 183 feet drive south has been driven 35 feet 8 inches, making a total distance from crosscut 283 feet 8 inches. 30 feet of this has been driven through schist, and there is no change in the end as yet. No. 1 winze has been sunk 5 feet, total depth 5 feet. Lode in the bottom is full width of the winze, assaying 4 dwts. of gold per ton of stuff.—Henty's shaft. During the past fortnight we have been engaged in putting in the necessary bucket and ladder roads and stage around the lift, and have sunk 1 foot 3 inches, making a total depth of 231 feet. There is no change in the bottom of shaft to note. 173 feet drive south has been driven 15 feet, making a total distance of 214 feet. Lode in the end is full width of the drive, which is 6 feet wide of rather good-looking quartz, assaying 3 dwts. 17 grains of gold per ton of stuff. There is no foot or hanging wall to be seen.

LINARES.—Mine report dated November 21: Pozo Ancho Mine. In the 200 fathom level driving east of No. 276 winze on Warne's lode, we have not met with anything of value. The lode in the 200 west of that winze on Warne's lode is favourable for driving through, but it does not contain any ore. The lode in the 178 west of Warne's crosscut is large and promising, with fine lumps of ore, and is estimated at 1 ton per fathom. In the 200 west of Peill's engine shaft the lode contains a little ore, but not sufficient to value. In the 155 west of the same shaft the lode is small, consisting chiefly of carbonate of lime and lead ore, valued at 1 ton per fathom.—Los Quinientos Mine, Taylor's engine shaft. In the 185 east the lode is still disordered by strong cross joints. The lode in the 165 east is improving in appearance, and yielding a little ore, valued at ½ ton per fathom. In the 150 east the lode is large and stong, and yields stones of ore occasionelly. There is no improvement in the 130 east. Luis' winze below the 130 fathom level. This is difficult to sink owing to the abundance of water.

LOMA GOLD.—The mine superintendent reports, under date 16th ultimo, as follows:—Mine. I am glad to report we are now washing steady with a 4½ inch nozzle; also, all is in good working order. My previous letters will explain delay in cleaning up, viz., want of water. At Soto Mine the gravel looks well, and if we can keep on as at present I look for, in about three weeks, a satisfactory clean up. The reservoir is being constructed in a reliable manner.

MOUNT ZEEHAN (Tasmania).—Manager reports for week ended October 16: Argent section, main engine shaft. No. 6 lode, 72 feet level south extended 12 feet 6 inches, total 276 feet. Lode 2 feet 6 inches wide, carrying a little ore throughout, but not rich. Raised 21 tons seconds. 132 feet level north extended 20 feet 6 inches, total 205 feet 6 inches. Country broken, but easy for progress. Raised 19 tons fair seconds.—Silver Queen Section. Tributors have discovered a very promising lode, which has been opened at surface for a length of 100 feet, showing first class ore more or less the whole distance. We are now trenching on this lode south, starting from a point where there is 1 foot of solid galena, and at a convenient place shall begin sinking at once, working our pump by a wire rope arrangement from our main engine shaft on the Argent section. The shoot of ore assays 66¾ per cent. lead and 93 ounces silver per ton. Concentrator has been run on tribute ore 17 hours, milling 54 tons seconds, and on our own ore 18 hours, milling 58 tons seconds, the latter producing 9 tons concentrates, containing about 6 tons 15 cwts. lead and 713 ounces of silver.

MILLS' DAY DAWN UNITED.—Mine manager's report for fortnight ending September 24: Underlie shaft sunk 9 feet, total from No. 8 plat 148 feet. The formation is about 7 feet wide carrying leaders from 6 inches to 1 foot thick heavy mineral stone.—No. 8 west hanging wall reef holed to No. 2 winze. We are stoping on 2 feet of good mineral stone. The formation shows a reef 3 feet thick of good stone. No. 8 west main reef extended and timbered 20 feet, total from main level 51 feet. No reef at present. No. 8 east main reef driven and timbered 10 feet, total 35 feet. Formation is large, carrying 18 inches of medium quality stone on footwall with leaders of heavy mineral across the drive. Stopes average 3 feet medium quality stone.—No. 7 level hanging wall. No. 2 winze sunk 3 feet, total 87 feet, and holed to No. 8. Stopes average 5 feet of heavy mineral stone for a distance of 200 feet.—No. 7 west main level. No. 4 west winze sunk 9 feet 6 inches, total 100 feet 6 inches on a reef full size of winze of good stone. No. 5 winze sunk 14 feet on good stone. The hanging wall stopes average 5 feet heavy mineral stone. Footwall averages 3 feet of medium quality.—No. 6 west. Footwall stopes average 2 feet good mundic stone. Hanging wall reef 2 feet 6 inches of medium quailty. No. 2 winze on footwall level sunk 12 feet on 3 feet of fair quality stone.—Intermediate level. Stopes average 1 to 5 feet of heavy mineral stone for a distance of 300 feet. No. 5 west footwall crosscut driven 32 feet. No. 5 5 west stopes average 5 feet of medium quality stone.—No. 5 east. Stopes average 4 feet of good stone.—No. 3 east. Stoping on 18 inches of fair stone.—Stone raised, 2000 tons.

NEW QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers:—No. 2 level north. We have started stoping both sides of No. 1 winze between the Nos. 2 and 3 levels north; there are thin veins of stone on the hanging wall. We are following the hanging wall, and are working several feet over the winze in the face. On the footwall, on the south side of the winze, the reef is bunchy from 9 inches to 1 foot.—No. 3 south level. In the underhand stope under this level the formation is about 3 feet wide with about 2 inches of reef on both walls.—No. 4 south level. Stoping has been carried on over this level, the formation varying from 3 to 7 feet; the reef is irregular and from 3 to 9 inches.—No. 5A south level has been extended 8 feet making 64 feet from underlie shaft. Stoping has also been carried on; the reef is very bunchy, from 3 to 6 inches, with a portion of blank ground.—No. 5 level north has been extended 17 feet, making 300 feet from underlie shaft. There is a slight improvement in this draft during the last few feet. The hanging wall is going at a much less grade, and a little quartz seems to be coming in.- No. 6 south level has been extended 19 feet, making a total of 100 feet from underlie shaft. There is a thin vein of quartz about 2 inches in the end of level, the ground is very hard.—No. 4 formation, underlie shaft. The underlie shaft has been sunk a further distance of 25 feet, making it a distance of 104 feet from end of crosscut. There are about 9 inches of quartz in the face which is rather white. The levels will be opened out during the next fortnight.—No. 1 south level. Stoping has been carried on over this level, the reef is very small, a large portion being in blank ground. We expect to connect these stopes with the drive from the bottom of straight shaft during the ensuing fortnight.—No. 1 north level. Stoping has been carried on over the level, principally on the northern side, with the object of extending the level along the face of stopes. The formation is very wide—about 12 feet—and the progress is slow. One shift with the machine has been taken from this stope for the purpose of pushing the underlie ahead. Quantity of stuff raised during fortnight: No. 2 level north and south, 137 trucks; No. 4 level south, 183 trucks; No. 5A level south, 58 trucks; No. 6 level north, 2 trucks; No. 4 formation, 109 trucks.—(Signed) W. Henderson.

OOREGUM. — Superintendent's report for fortnight ending November 6. Taylor's shaft sunk 8 feet; total depth below the 560 feet level, 101 feet 6 inches. Lode 3 feet 6 inches wide, assay value 2 ounces 3 dwts. 13 grains. We purpose driving north to meet the 660 feet level from Wallroth's, and expect the surveyor here within a few days, to determine the exact position of level, after which it will be commenced and forced to effect the communication between the two shafts. Concurrently with this the 660 feet level south will also be commenced. The 560 feet level south driven 16 feet 6 inches, total 184 feet 6 inches. Lode 1 foot 6 inches, value 2 ounces 5 dwts. 17 grains. No. 1 winze 560 feet level south sunk 7 feet 6 inches, total 25 feet. Lode 2 feet 9 inches, value 2 ounces 9 dwts. No. 2 winze 460 feet level south sunk 5 feet, total 84 feet 6 inches. Lode 4 feet, value 1 ounce 1 dwt. 19 grains. No. 3 winze 460 feet level south sunk 4 feet, total 47 feet. Lode 4 feet carried value 16 dwts. 8 grains. No. 4 winze 460 feet level south sunk 5 feet 9 inches, total 11 feet 6 inches. Lode 2 feet 6 inches, value 15 dwts. 6 grains. No. 7 rise 460 feet level south risen 9 feet 3 inches, total 39 feet 3 inches. Lode 3 feet 6 inches, value 1 ounce 17 grains, communicated with No. 4 winze from 360 feet level No. 4 winze 360 feet level south, sunk 2 feet, total 32 feet 6 inches. Lode 3 feet 6 inches, value 1 ounce 3 dwts. 22 grains, communicated with foregoing rise. Wallroth's shaft sunk 5 feet 9 inches, total 930 feet 9 inches. Lode 1 foot 6 inches, value 6 dwts. 12 grains. We think it necessary to state that through a breakage in one of the loops connected to flat rods at surface the water rose several feet and delayed the sinking several days. The 860 feet level south driven 13 feet, total 132 feet 6 inches. Lode 1 foot 3 inches, value 5 dwts. 10 grains. No. 1 winze 860 feet level south sunk 6 feet 3 inches, total 19 feet 3 inches. Lode 2 feet, value 7 dwts. 14 grains. The 860 feet level north driven 12 feet 3 inches, total 92 feet 6 inches. Lode 4 inches, value 6 dwts. 12 grains. The 760 feet level south driven 8 feet, total 285 feet 6 inches. Lode 3 inches, value 4 dwts. 8 grains. No. 1 winze 760 feet level south sunk 8 feet, total 63 feet 9 inches. Lode 2 feet, value 18 dwts. 12 grains. The 760 feet level north driven 10 feet 6 inches, total 160 feet 6 inches. Lode 2 feet 6 inches, value 8 dwts. 17 grains. No. 1 winze 760 feet level north sunk 6 feet 6 inches, total 53 feet 6 inches. Lode very small, assay value 10 dwts. 21 grains. The 660 feet level south driven 15 feet 9 inches, total 760 feet 6 inches. Lode 2 feet, value 17 dwts. 10 grains. In the end we have a small crosscourse, which has rather disordered the lode, causing the falling off in its value. We have every reason to expect the lode on south side of crosscourse will materially improve, judging from the rich shoot laid open by the sinking of Taylor's shaft. No. 2 winze, 660 feet level south sunk 2 feet 6 inches, total 74 feet. Lode 1 foot, value 13 dwts. 2 grains. No. 3 winze, 660 feet level south sunk sunk 3 feet 6 inches, total 72 feet 9 inches. Lode 6 inches, value 16 dwts. 8 grains. No. 4 winze, 660 feet level south sunk 3 feet, total 45 feet. Lode 4 inches; no sample taken. No. 5 winze, 660 feet level south sunk 4 feet 9 inches, total 26 feet. Lode 4 feet, value 2 ounces 5 dwts. 17 grains. No. 7 winze, 560 feet level south sunk 5 feet, total 44 feet 3 inches. Lode 1 foot 6 inches, value 13 dwts. 2 grains. The 560 feet level north driven 10 feet 11 inches, total 297 feet 8 inches. Lode very small; no sample. The 360 feet level north driven 9 feet 4 inches, total 318 feet 1 inch. Lode very small; no sample. The 280 feet level south from crosscut west driven 13 feet 6 inches, total 30 feet. Lode 2 feet, value 5 dwts. 10 grains. The 280 feet level driving north on fold driven 14 feet 9 inches, total 22 feet. Lode 1 foot 6 inches, value 9 dwts. 19 grains. The 215 feet level north driven 1 foot 6 inches, total 550 feet 6 inches. No lode. No. 4 winze 215 feet level north sunk 5 feet 3 inches, total 49 feet 9 inches. Lode 1 foot 6 inches, value 1 ounce 2 dwts. 21 grains. No. 4 rise 215 feet level north risen 3 feet 6 inches, total 26 feet 6 inches. Lode 1 foot, value 1 ounce 10 dwts. 12 grains. Low's shaft sunk 6 feet 3 inches, total 635 feet 4 inches. The 610 feet level south driven 16 feet, total 71 feet. No change to notify. The 510 feet level south driven 17 feet, total 270 feet 6 inches. Lode 6 inches wide, value 15 dwts. 6 grains. No. 1 winze 510 feet level south sunk 7 feet 9 inches, total 27 feet 9 inches. Lode 2 feet wide, value 12 dwts. No. 1 winze 510 feet level north commenced, sunk 15 feet 6 inches on the crosscourse, which is almost parallel with the lode and contiguous to it, which combined is 2 feet wide, and gives 9 dwts. 19 grains per ton. This is being such as a test.—Probyn's shaft. The 1050 feet level north driven 9 feet, The 950 feet level south driven 13 feet 6 inches, total 257 feet 6 inches. Lode 6 inches wide, value 10 dwts. 21 grains. No. 1 winze 950 feet level south sunk 5 feet, total 19 feet. Lode 1 foot 9 inches, value 8 dwts. 17 grains. No. 1 winze 950 feet level north sunk 4 feet 3 inches, total 69 feet 6 inches. Lode 3 inches, value 6 dwts. 12 grains.—The 660 feet level. We are driving east from shaft for balance-bob, plat driven 12 feet.—No. 2 trial shaft. The crosscut west from 250 feet level south driven 7 feet. At this point a branch of quartz 6 inches wide has been intersected, which gives by assay 1 ounce 1 dwt. 19 grains of gold per ton. The 250 feet level north driven 7 feet, total 93 feet. Lode 4 feet 6 inches, value 16 dwts. 8 grains. The ventilation here at times very bad. A fan is being erected which we hope will remedy this and enable better progress to be made.—Stopes for month: Taylor's shaft. Back of 460 feet level south stoped 15½ fathoms. Lode 4 feet 6 inches wide, assay value 1 ounce 3 dwts. 5 grains. Bottom of 360 feet level south stoped 48½ fathoms. Lode 3 feet 10 inches, value 1 ounce 4 dwts. 13 grains. Bottom of 280 feet level south stoped 24½ fathoms. Lode 2 feet 10 inches, value 1 ounce 5 dwts. 10 grains. Bottom of level south from back of No. 4 rise 280 feet level stoped 3½ fathoms. Lode 2 feet, value 1 ounce 13 dwts. 4 grains.—Wallroth's shaft. Back of 660 feet level south stoped 14½ fathoms. Lode 2 feet 9 inches, value 1 ounce 17 dwts. 13 grains. Bottom of 660 feet level north stoped 4½ fathoms. Lode 2 feet 6 inches, value 1 ounce 4 dwts. 11 grains. Back of 560 feet level south stoped 19 fathoms. Lode 2 feet 4 inches, value 2 ounces 14 dwts. 10 grains. Bottom of 560 feet level north stoped 2½ fathoms. Lode 2 feet, value 2 ounces 7 dwts. 21 grains. Bottom of 460 feet level south stoped 17 fathoms. Lode 2 feet 3 inches, value 1 ounce 16 dwts. 3 grains. Bottom of 460 feet level north stoped 10½ fathoms. Lode 1 foot 6 inches, value 3 ounces 8 dwts. 14 grains. Back of 360 feet level south stoped 5¾ fathoms. Lode 1 foot 6 inches, value 2 ounces 14 dwts. 10 grains. Bottom of 360 feet level south stoped 34½ fathoms. Lode 1 foot 10 inches, value 2 ounces 2 dwts. 8 grains. Bottom of 360 feet level north stoped 2¾ fathoms. Lode 1 foot 6 inches, value 1 ounce 1 dwt. 19 grains. Bottom of 280 feet level south stoped 21¾ fathoms. Lode 3 feet 8 inches, value 1 ounce 11 dwts. 5 grains. Bottom of 215 feet level north stoped 6¾ fathoms. Lode 1 foot, value 2 ounces 5 dwts. 22 grains. Back of 215 feet level north stoped 4½ fathoms. Lode 1 foot 2 inches, value 2 ounces 8 dwts. 10 grains.—Low's Shaft. Bottom of 430 feet level south stoped 13¾ fathoms. Lode 1 foot 2 inches, value 1 ounce 10 dwts. 11 grains. Back of 430 feet level south stoped 2½ fathoms. Lode 6 inches, value 18 dwts. 12 grains; suspended. Bottom of 430 feet level north stoped 3 fathoms. Lode 6 inches, value 8 dwts. 17 grains; suspended. Back of 350 feet level south stoped 1¾ fathoms. Lode 1 foot, value 1 ounce 17 grains. Back of 270 feet level south stoped 2 fathoms. Lode 9 inches, value 10 dwts. 21 grains; suspended. Back of intermediate level north, back of 200 feet level south, stoped 1½ fathom. Lode 1 foot, value 9 dwts. 19 grains.—Probyn's shaft. Bottom of 650 feet level south stoped 11½ fathoms. Lode 10 inches, value 9 dwts. 6 grains. Bottom of 366 feet level north stoped 3 fathoms. Lode 1 foot 6 inches, value 3 ounces 7 dwts. 12 grains.—Exploratory work, Wallroth's shaft. The cross cut east, from 460 feet level north, driven 5 feet 3 inches, total 18 feet; strata hard. The cross cut east from 280 feet level south driven 35 feet, total 135 feet. The cross cut east from 280 feet level north, which was suspended on the 26th May, 1890, has been resumed and driven 2 feet 1 inch, total 42 feet 9 inches, with a view of intersecting the lode north of the fold.—Probyn's shaft. The cross cut east from 450 feet level south driven 26 feet, total 357 feet 6 inches. No change in character of strata. During the month of October 440 tons of quartz were crushed, which produced 4211 ounces of gold, 5030 tons of tailings were treated, which yielded 1059 ounces of gold—total return 5270 ounces of gold.—P.S. Since writing the foregoing we have been to the 660 feet level south from Wallroth's shaft, and find the lode south of cross course full 4 feet wide.

PESTARENA.—Ends. In the 46 east on No. 1 lode, the branch on the hanging wall averages 10 centimetres in width, and is valued at 1 ton of 2 ounces per fathom. The 55 east on No. 1 lode carries a branch 25 centimetres, consisting chiefly of quartz with patches of pyrites throughout; its estimated value is 2 tons of 1 ounce ore per fathom. The branch in the 70 east has been passed through, but being small, the men are still cutting in on the north side. Nothing yet has been met with. In the 70 east on A and B lodes, the men have finished cutting in on the south side, and driving has been commenced on a branch composed chiefly of quartz with a little pyrites. It is still very disturbed. The branch in the 90 west on No. 1 lode averages 30 centimetres wide, and is estimated to produce 3 tons of 1 ounce ore per fathom. The lode in the 90 east on branch of No. 1 is 1·50 metres wide, and carries a branch 50 centimetres on hanging wall, marking pyrites throughout. Has a promising appearance. The branch on the south side in the 140 west on No. 5 lode shows a slight improvement, and is now valued at 1½ tons of 3 ounces ore per fathom —Crosscuts. No change has taken place in any of the crosscuts since last reported on; all continne in hard schist.—Stopes. These continue to yield their usual quantity and quality of ore.—Stabioli Mine. The lode in the Anza level north shows two good walls, 1·20 metres apart, and at present is split up into two branches, each showing veins of pyrites. Has a most promising appearance. The crosscut west from Morghen adit is not so hard, otherwise it shows no change.—Kint concession. Guja adit is still in hard, compact, syenitic gneiss. Fair progress is being made in opening the winze under the Quarazza adit. End west at Lanti workings; a sample of the lode which is 1·20 metres wide has been assayed, and gives 5 dwts. to the ton.—Pozzone Mine. The water has been forked to a depth of 43·30 metres, and the lifts will probably be lowered to-morrow. All the machinery continues to work satisfactorily.—(Signed) T. Henry Messa.

SPITZKOP.—Under date October 30, the manager writes as follows:—Mines. There is an all-round improvement in the numerous drives, with the exception of No. 3. In this drive the reef has dipped underfoot, and I do not anticipate it will rise again, consequently work there has been suspended, as there is too much water to contend with. In No. 4 the reef is improving very much; it is small, but of good quality, and is now being saved. The reef is rising. The stripping operations continue to produce good ore. Hydraulic operations will shortly be recommenced, and I am daily expecting advice that the hose has arrived at the coast.—Cyanide. The plan and levels of the site for works have been forwarded to Mr. Feldtmann (expert), from which he will design a plant suitable to same.—Removal of mill. With the exception of the bed blocks nearly all the heavy machinery has been removed to the new site.—Summary for four weeks ended October 27. Driving 320 feet.

SUTHERLAND REEF.—Mr. Procter left by last week's steamer for the mine to be present at the starting of the battery about the end of January, and also to make arrangements for the development of the remaining parts of the property.

ZAMBESIA EXPLORING.—Messrs. Robert Williams and Co's agent, writing from Salisbury on October 1, mention that Messrs. George Grey and Swinburne were proceeding to the Buluwayo district in order to report and examine upon the properties pegged off and acquired by Messrs, Baud, F. B. Grey, and others in connection with the Buluwayo Syndicate, St. Helen's Buluwayo Association, Zambesia Exploring Company, Copenhagen Company, and other syndicates. Mr. George Brand, writing from the Buluwayo district on September 9, reports having pegged out a large number of claims on old workings for the Buluwayo Syndicate, some specimens from which panned as high as 6 ounces, and gave good averages. Messrs. Robert Williams and Co's agent at the Dickens Mine reports (September 9) that the 5th shaft, north crosscut, was 26 feet, going through pay streak at footwall, and small stringers of quartz, panning about 5 dwts. In the south crosscut, 3½ feet on the hanging wall, small stringers of quartz, panning blank. 4 east drive, rise 15 feet, to prospect and prove this ground. Half-way between the 80 and 30 feet levels he found a strong body of quartz, yielding 30 dwts., but which subsequently went off into stringers. They anticipated that by following these they would soon strike the solid vein again.—80 feet level, east drive (total 147 feet). Face of drive badly broken, and value of ground constantly changing, so that he desired to sink to 180 feet, feeling confident he would then have penetrated the broken part of the formation and come upon the solid quartz.—West drive, 80 feet level (total 85 feet). Compact in places, with hard crystalline schist, The ore was best at the bottom of the drive, and by sinking a few feet he expected to expose a body of quartz. Writing on September 17, he reports a slip in the 80 feet level had exposed 8 feet in solid quartz and three seams from 2 to 3 inches each. Crosscuts were to be driven as soon as timber sets had been placed.—West drive, same level. He had obtained quartz panning 2 dwts., the first since starting this drive, and he considered it indicated they were on the right track to reach payable ore. Most of the quartz would pay well for milling after sorting. Samples taken from 300 or 400 tons at the different dumps panned from 1 dwt. to 12 dwts.; average 4 dwts. Mr. Taylor, the submanager, writing from the Dickens on 24th September, reports:—"The large ore-bearing body at the 80 feet level continues." Copenhagen (Mashonaland) Company (Limited), Cambrian R. E. No. 2 shaft. The ore is so good, he had determined to drive down until the water stopped them. No. 3 shaft was also looking better as he drove deeper. For size of reef and equal distribution of gold throughout the entire length of the blocks the Cambrian was, he considered, the best property of the district—undoubtedly a paying one, and perhaps a very great one. A 5 or 10 stamp mill could be set at work at once on payable one, and kept running for three years, from quartz in sight and at grass roots; but he thought it a better policy to continue developing until 30 stamps could be driven by water power on the Shashi River, about four miles distant. Mr. Macdonald, writing from the Cambrian on 1st October, reports: No. 2 main shaft, 41 feet quartz all the way down; has been very rich. Mr. F. B Grey, writing from Gwanda Gold Belt, Matabeleland, on 17th October, reports that he is busy with Mr. Brand pegging out further claims for the Buluwayo Syndicate. Mr. Cochrane, writing from Johannesburg on 20th October, promises to send Cleveland titles by next mail, and mentions receipt of Panhalanga titles. That, following Mr. Robert Williams' instructions, he has now miners actively developing the following properties:—Inez, Dickens, Cambrian, and Panhalanga. In respect to the latter he hopes to be able to send reports at an early date. Davidson, in charge of the Inz, was sinking the main shaft and erecting the pumping and hauling gear with a view to getting down to the 100 feet level, and opening the mine at this point. The manager of the George and May, writing from Krugersdorp, on 24th October, reports:—No. 1 main shaft. The mill has been entirely supplied from the 3rd and 4th levels, where the reef averages 2 feet 2 inches, which is the only payable stope at present developed. Taking three stopes together for every foot forward only 30 tons are obtained. I have, therefore, great difficulty in keeping the mill supplied. The boiler has now been placed in position under ground, and I have started two small stopes on the south reef, which give very good pannings, but they will only give about 10 tons per day. As soon as the winzes can be connected we shall get a large area of south reef ready for stoping, but this will probably be 10 weeks hence, by which time the sorting will be in order, and give the ore a fair chance of showing its milling value. We shall also commence trenching at surface to try and pick up leader again.—No. 4 main shaft. The reef has now faulted in both winzes, east and west.—Battery. This has been stopped for 23 hours. The amount being crushed per stamp is 31·81 tons. The yields from plates will show about 5 dwts., but falling off in yield will result from smaller crushings.

CRAVEN'S CALEDONIA.—The following fortnightly report has been received from the mine, dated Charters Towers: In the seven stopes, over No. 9 level, the reef will average about 9 inches, and is also of the same thickness in the underhand stope from No. 9 level. In the three stopes over No 8 level the reef is about 7 inches thick. In the three stopes over No. 6 level the reef is about 5 inches. No. 4 level has been extended a further 8 feet, making a total of 133 feet from the old level. There are still a few leaders and a little more formation. In the first stope over the level there are 7 inches of stone, No. 2 stope 10 inches, No. 3 stope 8 inches. The haulage of quartz for the fortnight is 75 tons, making a total of 102 tons in the paddock. At the Victoria and Queen shaft I started an underhand stope opposite the second cross cut, and the reef is about 7 inches thick. In No. 7 stope over the eastern level the reef is about 6 inches thick, but for the next 30 or 40 feet, along the backs, the reef is a bit small, and in the rest of the stopes the reef will average 9 inches, and the stone seems to be improving. We have raised 31 tons of quartz during the fortnight from this shaft.—(Signed) G. Cabassi.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for week ending Wednesday, October 17: Blackwood No. 1 shaft, 150 feet level. East crosscut driven 11 feet, total length 36 feet; face entering softer country.—Howell No. 2 shaft. 300 feet level. North-east drive extended 6 feet, total length 46 feet; face still in low grade sulphides.—Marsh No. 6 shaft, second level. South drive off No. 3 east crosscut driven 10 feet, total length 102 feet; face showing some splendid patches of carbonate ore. We broke and hoisted 7 tons, averaging 35 per cent. and 62 ounces, 3 tons assaying 25 per cent. and 40 ounces, and 2 tons averaging 21 per cent. lead, and 26 ounces silver per ton In No. 2 uprise over No. 4 east crosscut, we are still fossicking around the various chutes of ore; in doing this we obtained 5 tons, averaging 26 per cent. lead, and 40 ounces silver per ton.—Stopes. From the stopes over back of the second level we broke 5 tons, assaying 30 per cent. and 58 ounces, 6 tons assaying 25 per cent. and 40 ounces, and 3 tons averaging 21 per cent. lead, and 26 ounces silver per ton. From the south stope off No. 2 west crosscut we broke 2 tons, assaying 25 per cent. and 40 ounces, and 4 tons averaging 21 per cent. lead and 26 ounces silver per ton. From the stope off No. 3 west crosscut we broke 6 tons, averaging 37 per cent. and 33 ounces, and 4 tons assaying 25 per cent. and 30 ounces silver per ton.—Stopes down winze. From the north stope we broke 20 tons, averaging 37 per cent. and 103 ounces, and 2 tons, averaging 25 per cent. and 40 ounces silver per ton. From the south stope we broke 18 tons, averaging 24 per cent. lead and 170 ounces; also 4 tons, averaging 25 per cent. lead and 40 ounces silver per ton. We have connected this (south) stope with the winze that was sunk at mouth of No. 3 east crosscut.—Retallick's winze. North drive is driven 9 feet, total length 52 feet; face of drive carrying a chute of carbonate ore varying from 4 to 6 feet in width. We broke 10 tons, averaging 37 per cent. and 11 ounces silver per ton. The south drive is stopped for the present From this drive we have risen to 115 feet level of Retallick's shaft; we broke 14 tons, averaging 36 per cent. lead and 11 ounces silver per ton. The assays for the week vary from 12 to 65 per cent. lead and from 6·5 to 345·6 ounces silver per ton.

COROMANDEL.—Superintendent's report for fortnight ending November 3: Coromandel shaft, 420 feet level north. This has been driven during the fortnight 22 feet 3 inches, and its total length is now 429 feet 3 inches. The lode at present has become pinched to less than a foot in width, and its value is 8 dwts. per ton. The rise in back of this level has been reset to rise by hand labour. Its total height is 8 feet 3 inches, the lode in back being 1 foot wide, worth 7 dwts. per ton.—210 feet crosscut east driven 19 feet 6 inches; total from former level, 79 feet 3 inches. We have not yet discovered anything to value, though branches of quartz have been met with throughout. Since last report a winze has been commenced to sink under the 320 feet north. Its present depth is 12 feet 6 inches, and the lode in bottom is 1 foot 6 inches wide, assaying 6 dwts. of gold per ton.—Prospect shaft. The 500 feet crosscut west of shaft has been extended a further 21 feet, making its total length 185 feet from shaft. No change since last report.—500 feet level north. The cross cut west from this end has been driven a total distance of 28 feet 3 inches and suspended. The north drivage has been resumed on a branch of quartz 9 inches wide, assaying 8 dwts. per ton, and this is considered to be the continuation of the lode, which cut out against the slide. Distance driven north 19 feet 6 inches, total distance from shaft 369 feet 6 inches.—500 feet level south. Driven 27 feet 6 inches, total 139 feet 3 inches. Lode in end is at present very small and poor.—440 feet level south of cross cut east. This has been driven 22 feet 9 inches, 15 feet of the drivage having been through a cross dyke. The lode which was about 18 inches wide proved very rich against the dyke, but the value has since fallen to 15 dwts. per ton. Rise back of 440 north risen 7 feet 6 inches by hand labour. Quartz 1 foot wide, assaying 1 ounce 14 dwts. per ton.

ORITA.—H. J. Prender, October 17: Operations during run No. 81. We shall clean up to-morrow, and I hope it will be better than the last. From the appearance of the sluice I expect it will be. Our next clean up will be at the branch, where all is ready to turn on the water at a moment's notice. The repairs to flumes, &c., have been completed, and all is in good running order.

ST. JOHN DEL REY.—Report of mining operations for the month of October, received 24th inst.: D shaft, horizon 8, driving F. Distance driven 22 feet, total length beyond No. 2 winze 37 feet. The last 16 feet has been in solid mineral.—Driving E. Stoping ground extended 11 feet further east for a height of 24 feet and width of 18 feet.—Unwatering level. When the bore hole reached 148 feet 8 inches a very hard dark quartz was met with, and only a distance of 2 feet 10 inches was bored in 6 days After this softer ground was encountered, but the cog wheels of the machine failed and new ones are being made and fitted. The total length of bore-hole to date is 157 feet 2 inches. A telegram received 20 h inst. advised shipment of 7300 oitavas, equal to about £2828. As this is a much smaller remittance than expected, the directors conclude Mr. Chalmers considers it absolutely necessary to continue baling in the old mine until the water is reached by the bore-hole, and as mentioned in the last circular the water power of the cristaes, the main supply is sufficient to work both old and new machinery simultaneously. The diary and letters record a series of experimental trials with 40 stamps to ascertain the best conditions as to depth and rapidity of blow, height of grates above die in the coffer, quantity of water and other essential points connected with attaining the largest recovery of gold contents of the mineral (the gold exists in the pyrites in almost infinitesimal specks). Mr. Chalmers has ascertained the conditions under which the mineral can be crushed to a fineness that will pass 90 per cent. through screens 32,400 holes to the square inch, straking admirably, and yet crush over 2 tons per stamp in 24 hours. The trial crushings were not finished when the mail left Morro Velho, October 28.

TOLIMA.—The directors have received advices by the mail of November 24 from their mines, of which the following is an abstract. Frias estimated September returns (150 tons) silver, valued at 30¼ per ounce, £6945 19s. 8d.; cost, £4269 15s. 3d.; profit, £2676 4s. 5d. The underground agent reports 125 fathoms 0 feet 1 inch of ground expended, of which 87 fathoms 4 feet 7 inches were productive, leaving of unproductive ground 37 fathoms 1 foot 6 inches. The superintendent, writing under date of the 18th ult., expresses his pleasure at being able to report a very considerable improvement in the exploratory workings. At the 140 fathom east winze No. 1 down 20 feet below the sole of the 140 fathom level the sinking was proceeding in a splendid body of high grade mineral, yielding since the beginning of October 4 tons to the fathom. An average sample from this station is reported to have assayed 718 ounces to the ton, The 120 fathom east end was (October 18) being driven through very high-grade ore, also yielding average samples showing 718 ounces to the ton. The 100 fathom east sink had reached a depth of 8 fathoms, and had proved the existence of a distinct branch of mineral to the north of that already stoped. This branch has yielded on an average 1½ ton of good grade mineral per fathom.—Underground Report, Engine Shaft. Owing to the continued drought no sinking has been done during the month. But to date I am pleased to say that the wet season has set in, and sinking is again resorted to; also the stuff and water is drawn from the bottom of the shaft to the 130 fathom level by the small air winch, that works most satisfactorily. 140 fathom west end N.B. was driven 18·2 feet by four men at $80 per fathom, and the lode throughout has continously yielded some good bits of mineral, but not in quantities to value. 140 fathom east end was driven 19·5 feet by four men at $80 per fathom, being 180·5 feet, as total east of west winze, and the lode continues poor yet well defined, and of a nice congenial appearance. 140 fathom cross cut to engine shaft was driven 8 feet by two men on company account. 140 fathom east winze No. 1 was sunk 8·6 feet on company account during a part of the month. It is situated 22 fathoms east of the west winze, and yielded on an average 2 tons of high grade mineral per fathom, and to date of writing it contains a branch from 12 inches to 24 inches wide, that is highly charged with good-class mineral 130 fathom west end was driven 13·7 feet by two men at $72 per fathom, thus being 349·9 feet as total west of the winze, and the lode remains unchanged. 130 fathom west back stope No. 1 was stoped 43 feet by six men at $40 per fathom, and yielded 1½ tons of mineral per fathom. 130 fathom west back stope No. 2 was stoped 49·5 feet by four men at $26 per fathom, and yielded 2½ tons of mineral per fathom. 130 fathom east back stope was stoped 44 feet by four men at $25 per fathom, and yielded 1½ tons of mineral per fathom. 120 fathom west back stope No. 1 was stoped 47 feet by four men at $30 per fathom, and yielded 1½ tons of mineral per fathom. 120 fathom east end N.B. was driven 31·8 feet by four men at $65 per fathom, The lode yielded 3 tons of high grade mineral per fathom, and to date of writing it has further improved, and is being driven in a magnificent body of mineral. 120 fathom east rise was risen 18·5 feet by two men at $70 per fathom. It is situated about 7 fathoms behind the above end, and our object is to hole to the 110 fathom level for ventilation and the laying open of stoping ground. 120 fathom east back stope No. 1 was stoped 29·5 feet by four men at $40 per fathom, and yielded 1 ton of mineral per fathom. 120 fathom east back stope No. 1a was stoped 15 feet, on company account, and yielded 3 tons of mineral per fathom. 110 fathom east end was driven 12 feet by two men at $65 per fathom, thus being 823·9 feet as total east of the engine shaft, and the lode is without change to note. 110 fathom east winze No. 4 was sunk 31 feet by eight men at $85 per fathom, in unproductive ground. It is situated just 26 fathoms east of the No. 3 winze. 110 fathom east back stope No. 1 was stoped 47·2 feet by two men at $21 per fathom, and yielded 2½ tons of mineral per fathom. 110 fathom east back stope No. 3 was stoped 53 feet by two men at $23 per fathom, and yielded 5 cwts. of mineral per fathom. 110 fathom east bottom stope was stoped 39·6 feet by two men at $23 per fathom, and yielded 2 tons of mineral per fathom. 100 fathom east bottom stope was stoped 42·6 feet by four men at $25 per fathom, and yielded 1 ton of mineral per fathom. 100 fathom west sink N.B. was sunk 15·2 feet by four men at $110 per fathom, thus being 43·2 feet as total depth, and yielded 1½ ton of mineral per fathom. 100 fathom west back stope was stoped 18 feet on company account, and yielded 1½ tons of mineral per fathom. 90 fathom east end was driven 18·8 feet by two men at $72 per fathom, thus being 941·1 feet as total east of the engine shaft, and the lode remains unchanged. 90 fathom east rise was risen 25·8 feet by two men at $55 per fathom, being 44·8 as total height, and being poor it is suspended. 90 fathom east end, Welton's lode, was driven 21 feet by two men at $65 per fathom, and remains poor. 80 fathom east stope was stoped 39 feet by two men at $30 per fathom, and yielded 2½ tons of mineral per fathom. Shallow adit was driven 19·8 feet by four men at $71 per fathom, being 157·8 feet as total west of the cross cut, and is without change to note. West end from new cross cut was driven 17·2 feet by two men at $75 per fathom, and remains poor.—Real de Frias. West shaft was sunk 24 feet by 10 men on company account, thus being 181·5 feet as total depth below the sole of the deep adit. The lode is 7 feet wide, and has been yielding good portions of mineralised stuff that is of low grade. Deep adit west was driven 17 feet by two men at $38 per fathom, thus being 582 21 feet as total west of the shaft. The lode is poor, and for the time being it is suspended.

WHITE FEATHER REWARD CLAIM.—The fortnightly report, dated October 30, states: No. 1 shaft sunk a further distance of 13 feet; total depth, 113 feet; width of reef, 6 feet 3 inches; stone looking about the same; stone raised, 40 tons; total stone at grass, 240 tons. No. 2 shaft sunk 3 feet; total depth, 33 feet; reef about 18 inches wide, looking fairly well; the chute of gold south end still continuing, but very flat; stone raised, 1½ tons; total, 61½ tons.—Four Acre Lease. Breaking out leader stone, but not quite so good; raised, 6 tons; total, 66 tons.—Battery. Horse-gear almost completed erecting and connecting. Will put through, I hope, next week a trial crushing of 5 cwts. from bottom of deep shaft. Crushed previous fortnight, 1 ton 6 cwts. for 43 ounces 10 dwts. retorted gold.

BAYLEY'S REWARD CLAIM.—Mining report Coolgardie, W.A., October 6: Sylvester shaft. Since last report opening out the chambers each side of the shaft has been continued, and satisfactory progress made, but the openings being large the full size of the shaft and 11 feet high, and timbered, it will take probably another three weeks to complete them. In carrying out the work we are taking a portion of the lode sufficient to make the width of the chambers; in this during the week we have seen some very fine gold as telegraphed to you at the time.—West crosscut. West crosscut for Gorrie's lode has been advanced 4 feet, total 199 feet, still leaving 58 feet to reach the boundary. The rock is still very hard, and the face being so far from the shaft the ventilation is not by any means good, consequently the progress is slow.—Rise 100 feet level. The rise at the 100 feet level has been risen 8 feet, total 18 feet from back of drive. Lode is large, and I think is fair battery stone.—No. 1 intermediate. Stoping has been carried on in the No. 1 intermediate, and from time to time showing a little gold, the ironstone, vein making chiefly in patches.—100 feet stopes. In the 100 feet stopes work has also been continued, but the vein of rich stone has made very small, which I am in hopes will open out again.—North drive 50 feet level. North drive 50 feet level, Gordon shaft, has been driven for week 11 feet, total 80 feet. No change to report.—Everard shaft North drive from Everard shaft driven 8 feet, full length 119 feet. No particular change.—Stopes. Stoping has been continued as usual, and is yielding some very good gold. A large portion of the stone being passed through the battery.—Air shaft. The sinking of the air shaft midway between Everard and Cockshott shafts has been resumed, full depth being 47 feet from brace, being 6 feet for week. Have also seen some very nice gold.—Cockshott shaft. North drive is at present 52 feet. No particular change in lode, which is still large, with small patches of ironstone carrying gold.—Lode croppings. As you probably are aware, on the east and west sides of Gordon's shaft there is a considerable quantity of lode croppings containing gold which has been shed from the lode. This is mixed with the surface and clay material, and all should be passed through the battery, mixing it with the quartz as it came from the mine if we had sufficient water, but not having sufficient for that purpose I have this week had some screens constructed—the same as we screen silver and copper ores—and find it answers very well indeed, as it takes all the clay and debris from the quartz, which we then put through the battery. To treat the fines, or that which passes through the screens, I have made arrangements to hire a tierra seed machine with the right of purchase. This we have also tried and it seems to answer well, so that I have decided to purchase it for a sum of £50, which is less than one-half its original cost. We shall now fix up one of the small engines we have, and work it with this instead of by hand labour. The material we have to the present passed through the screens has yielded some very coarse heavy gold, and will doubtless pay well. Stone crushed for the week has been 70 tons. Yield, 700 ounces; and dispatched for the fortnight 1400 ounces bar gold, as advised by telegraph.—M. H. Matthews.

COLOMBIAN HYDRAULIC.—T. P. Sharman, October 19: Operations during run No. 197. We are still washing from the remaining piece of Clarke's banks, and when we began the run it was with the hopes of not falling behind last run, but the bedrock has been harder, increasing the cost of the ground cuts and decreasing the gravel worked, owing to want of grade. We have now laid the 22 inch pipe as far as our present opening, and we shall run a line of 16 inch pipe from a T piece in the 22 inch pipe to where we are working at present. This will be connected up during the clean up, as we shall require water in the pipe to cut away some banks of tailings, &c., between the end of the 22 inch pipe and the new opening. The whole of the fluming in the Medina ditch has to be renewed, and while the water is off for this and during the clean up, we shall push on with the work for the new opening. The one and only reason for all the delay on this work is the want of labour.

UNITED GOLD FIELDS OF MANICA.—Return of mining work done during the two weeks ending October 6 on Rezende mine:—Adit No. 1 advanced 9½ feet, total 591 feet. During last week the rock has changed. It is now softer and disturbed with small pieces of quartz; no vein or even leader. A little water is also coming from roof. Miner sharpens all tools and attends to day and night shift. Adit No. 3 west drift advanced 19½ feet, total 31 feet. South crosscut advanced 19 feet, total 23 feet. Vein of quartz in face not solid, with much clay and ferruginous earth; quartz on both sides of drift. Two leaders of quartz have been struck in this crosscut, one 1 foot wide and the other varying from 2 to 6 inches in width. The country rock is soft and broken. Natives cutting and carrying wood for mine and charcoal for forge.

MOUNT LYELL.—The London committee have received the following report from the Melbourne board, viz., for the week ending October 11: North drive, 100 feet level engine shaft, No. 4 tunnel. The north drive has been advanced 5 feet, total 46 feet. The country driven through is a very hard flinty rock, mineralised.—No. 2 cross cut, 75 feet level engine shaft, No. 4 tunnel. Work on the rich ore body has been continued southerly. There is no change to note. The vein maintains its width and richness.—South drive, 50 feet level engine shaft, No. 4 tunnel. The south drive has been advanced 5 feet, total 207 feet. Country, tight schist rock.—North drive, 50 feet level engine shaft, No. 4 tunnel. This drive is in a total length of 103 feet. The face is in a flinty mineralised rock.—No. 5 Tunnel. The contractors have driven 16 feet, total 860 feet. The country is much the same as last reported, but better shooting.—Ore raised. 280 bags, weighing 14 tons, containing 10,122 ounces silver and 2 tons 2 cwts. copper.

SOUTH AFRICAN EXHIBITION,

CRYSTAL PALACE, 1895.

PRESIDENT:

The DUKE of FIFE, K.T.

VICE-PRESIDENTS:

The DUKE of ABERCORN, K.G.

Sir HENRY B. LOCH, G.C.B.

Lord ROTHSCHILD.

The Hon. CECIL JOHN RHODES.

Sir S. G. A. SHIPPARD, K.C.M.G.

Prospectus, Entry Forms, and Full Particulars, post free, on Application to the

MANAGER, Crystal Palace, S.E.

TRANSVAAL GOLD EXPLORATION AND LAND.—Extracted from general manager's advices, dated November 1: New cyanide works. The masonry works was finished, the erection of the shed was practically finished, and the carpenters had commenced the construction of the extractor boxes.—Theta-Kameel's ground and aerial tramways. The work of excavating for trestle foundations was finished.—Chi-Kameel's ground and aerial tramways. The excavation for the top terminal on the ropeway system was begun.—Mines. There were no fresh developments to report from any of the mines. Native labour was still somewhat scarce, although a few gangs were coming in.

WANTED.

*** Prepaid Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.

CORNISH CRUSHER WANTED, not less than 3 feet Rolls.

Apply, with price and particulars, to PETER WATSON, 8, Finsbury Circus, London; or MOSES BAWDEN, Tavistock, Devon.

BUILDING.

WANTED TO PURCHASE, for cash, MEASURING about 60 feet × 20 feet that could be converted into three compartments. A nice elevation indispensable.

Send plan, elevation, price, and where it can be inspected, with full particulars, to Mr. THOMAS CLARKE, Stonecraft, Fourstones, R.S.O.

WANTED in January, by experienced Cornish Assayer SITUATION ABROAD. Copper, Silver, Gold, &c., &c. Unexceptional references.

Write, stating salary, &c., to "X.," care of MINING JOURNAL Offices, 18, Finch Lane, London, E.C.

£25.—MEDICAL MAN, well qualified, 41, batchelor, large experience of Mining practice (Africa and home), offers this amount for securing good appointment.

Full particulars, in confidence, "V. S.," Chester House, Eccleshall, Staffs.

FOR SALE.

*** Prepaid Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.

NAPTHA MINES IN GALICIA.

THE OWNER OF ABOUT 2000 MAGDEBURG MORGEN (ROUGHLY ACRES),

ON WHICH PROPERTY IS SITUATED A

NAPTHA MINE,

will SELL the SAME with all Appliances and Mining Rights for

50,000 Austrian guilders

(About £5000),

OR ENTER INTO PARTNERSHIP with 50 per cent of all RIGHTS for the purpose of EXPANDING the UNDERTAKING.

THE SHAFT YIELDED DURING THE PAST YEAR

1000 BARRELS,

and at the present time produces two barrels of crude oil daily.

Apply to

DOBRA HOSZOW,

Post Ustrzyki dolme in Galizien.

TO CAPITALISTS.

FOR SALE, on account of the death of Proprietor, a LEAD ORE and SILICIO-CARBONATE of ZINC MINE in North Tyrol, near a Railway Station. A good return for invested capital assured if properly exploited. Further particulars can be obtained from the management.

Address, "Z 2125," care of RUDOLF MOSSE, Vienna, Austria.

ENGINE FOR SALE, old Traction, at a low price if purchased at once.

Can be seen at Stonecroft Lead Mines, Fourstones, R.S.O.

PUMPING ENGINES.

SPLENDID PAIR of 25 Horizontals, Quadrants, Pumps, &c., complete, equal to new. Great bargain for QUICK SALE.

RATCLIFFE and SONS, Hawarden Iron Works, Chester.

COMPANIES AND LEGAL ANNOUNCEMENTS.

*** Advertisements are inserted in this column at the rate of 9d. per line with a minimum charge of 7s. 6d.

THE PESTARENA UNITED GOLD MINING COMPANY (LIMITED).

10 PER CENT. SECOND MORTGAGE DEBENTURES.

NOTICE IS HEREBY GIVEN, that the COUPON Number 34 of the 10 PER CENT. SECOND MORTGAGE DEBENTURES of this Company, due on the 1st December, 1894, will be paid on presentation at this office on or after that date.

By Order of the Board,

RICHARD GARLAND, Secretary.

Office, 7, Queen Street Place, London, E.C.

November 28, 1894.

TO LET.

*** Prepaid Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.

COLLIERY TO LET, IN MONMOUTHSHIRE, GAS AND STEAM COALS, 12 MILES FROM NEWPORT.

TOTAL MINERAL AREA of principal seams unworked 1100 acres. PRESENT CAPACITY 500 tons per day, could be increased. LEASE FOR 17½ YEARS with probability of extension. ROYALTIES 7½d. per ton. Large and small coal. RAILWAY COMMUNICATIONS in every direction.

For further particulars apply to Messrs. COLBORNE, WARD, AND COLBORNE, Solicitors, Victoria Chambers, Newport, Mon.

ELMSLIE (LIMITED),

C. T. ELMSLIE, J.P., London. A. B. ELMSLIE, Australia.

AUSTRALIAN INVESTMENT BROKERS,

8, WOOL EXCHANGE, LONDON, E.C

With Offices or Agents at all the principal centres in Australia.

Telegrams "Abelmoske," London.

Messrs. ELMSLIE'S Investment List and Mining Report for November is now ready, post free on application. This list contains full particulars of the soundest dividend-paying securities. Queensland and West Australian Mines specially dealt in.

REVIEWS.

The Indicator and its Practical Working. By A. G. Brown. (Published by the Globe Engineering Company, Limited, Manchester and London.)

We are inclined to agree with the author of this book that too little attention is paid by those in charge of steam engines to the indicator as an instrument for testing the efficiency of their engines, and the economy or otherwise of their working. In fact, we could without difficulty name numerous engines which have never been tested with an indicator since the day on which they left their makers' hands, and with still less difficulty, perhaps, point out managers or engineers in charge who may, perhaps, have heard of an indicator, but would be much puzzled to know how to use one, and how to decipher an indicator card. This book is written for the instruction of such men, and after giving an introductory account of the evolution of the present form of instrument from that first used by James Watt up to the Tabor Indicator, which is the most modern form of the instrument, and which the author describes fully, together with its accessories, he next deals with its application to various types of engines, and states the beneficial results to be derived therefrom. The indicator, as most of our readers are aware of, is an instrument for recording the pressure in the cylinder of an engine—whether steam, gas, petroleum, or hot air—at every point of the stroke of the piston, and the diagrams obtained by its use graphically show what is taking place, and if the steam is not entering, expanding, and leaving as it should do, then alterations should be made to correct the faults thus shown.

Numerous illustrations are given from actual practice showing the form of diagram obtained when the valves are rightly set as compared with those drawn by the indicator when they are defective, and as it is pointed out, a saving of as much as 5 tons of coal per week is sometimes effected as the result of the investigations made with the instrument, so that the importance of these tests is placed beyond all doubt. In addition to its use as an instrument for testing and regulating the working of the valves, a no less important function of the indicator is that of measuring the work done in the cylinder, or in other words, of ascertaining the actual horse-power of the engine as symbolised by the letters I.H.P., and several examples are given, and tables supplied by means of which this important information may be obtained. The book concludes with several chapters relative to the practical working of engines, and numerous tables and formulæ which are in constant requirement by engineers, and in our opinion it fairly fulfils its purpose of describing the indicator and its practical working, and as such we can recommend it to steam users generally.

THE LITERATURE OF SPECULATION.

Duncan on Investment and Speculation. (London: Effingham Wilson, Royal Exchange.)

This is one of the volumes which issue at frequent intervals from the Press wherein stockbrokers contrive to embody a good deal of useful information as to the modes of the Stock Exchange, and at the same time to write their own names and profession clearly upon every page. The reader is informed how to proceed in his financial operations, where there are pitfalls to be avoided, and is candidly told through it all that if he will deal with the firm under whose auspices the book has made its appearance he will receive open and honest treatment. It would be absurd to suppose that the standpoint from which the book has been written has not to some extent influenced the matter. Messrs. W. W. Duncan and Co. have, however, preserved throughout a business-like tone of writing, and every one of the 200 odd pages before us can be scrutinised without the discovery of a single instance of the puffing or advertising of a share. There may very easily be two opinions as to the advisability of embarking upon a course of speculation; but, this preliminary question set at rest, the general rules here laid down will probably upon examination be found to be those best calculated to issue successfully. It is not at all pretended that the man whose business ability would not suffice to carry him unscathed through the ordinary affairs of life would, by mere adherence to certain formulas, grow steadily rich, but shrewdness here, as everywhere else, gets its reward, and Messrs. Duncan and Co. aim at supplying that information, without which shrewdness itself would be impotent. We should to our own thinking act most wisely in warning the public against the infection of the speculating craze; but such as upon this point are past praying for may read this little work with the greatest advantage. It is wisely arranged, clearly written, and tastefully got up.

A RICH discovery of gold, coal, copper, and diamond bearing ground is reported in the vicinity of the Zambesia.

SALES BY AUCTION.

. Advertisements are inserted in this column at the rate of 8d. per line with a minimum charge of 4s.

RE R. W. ALLSOP.
UNDER DEED OF ASSIGNMENT.

TO MINE AND QUARRY OWNERS, ENGINEERS, BUILDERS, AND OTHERS.

MR. T. H. BROWN has received instructions from the Trustee, Mr. T. C. Parkin, Chartered Accountant, Sheffield, to SELL by AUCTION, at the Holme Hall Chert Mine and Field, Bakewell, on MONDAY, December 10th, 1894, the whole of the

USEFUL AND VALUABLE MACHINERY,

comprising 12 horse power double cylinder "Robey" winding engine (good as new), powerful pumping engine, a Walker's air compressor and receiver for same, to work 100 lbs. pressure, with extra slide-valve for same; a "Tangye" special steam-condensing pumping engine, a 12 feet steel boiler, 2 feet 6 inches diameter, to work at 100 lbs. pressure; a powerful vertical boiler, 11 feet by 5 feet 6 inches, complete, with new fittings, insured to carry 80 lbs. pressure, and spare fire-bars for same; donkey pump (by Evans, of Birmingham), pulsometer, a patent self sight feeder lubricator for 10 horse power engine, vertical and square water tanks, four Schram's rock drills with augers and air hose for same, stocks and dies and other loose working tools; four quarry trolleys, 4 feet 6 inches by 3 feet, iron shod and bound; a very large quantity of steam and other piping, from 1 inch to 9 inches diameter; new steel and iron bars, useful sizes; corrugated iron roofing, pit rails, sleepers, casks, &c.; new planking, iron cage, assortment of taps (steam and water), two pairs pulley blocks, 300 yards or thereabouts of 1 inch steel wire rope (new).

Pit timber props (averaging 8 inches diameter), cylinder, oils, packing, stores (various), hen coops, with nesting boxes, wire runs, and netting.

Sale to commence at 11 o'clock prompt,
On view the whole of the week before sale.
Cash at fall of the hammer.
Detailed catalogues from the AUCTIONEER, Bakewell, and from the TRUSTEE, 36, Bank Street, Sheffield.

Auctioneer and Valuer's Office, Rutland Chambers, Bakewell,

PUBLICATIONS.

. Prepaid Advertisements are inserted in this column at the rate of 8d. per line, with a minimum charge of 4s.

A HAND-BOOK of GOLD MILLING. By HENRY LOUIS, A.R.S.M., F.G.S., &c.

"It is a valuable companion, and should be found on the shelves, not only of the man in charge of the mill, but also of the student and mining engineer."—*The Mining Journal.*

"We have no hesitation in cordially commending Mr. Louis's treatise as an all-round excellent work on gold milling and gold milling machinery."—*Mechanical World.*

"The author shows thorough familiarity with his subject, and expresses himself clearly and concisely in not too technical language."—*Nation.*

Crown 8vo., PRICE 10s. net.

THE GOLDEN QUARTZ REEFS of AUSTRALIA. By WILLIAM NICHOLAS, F.G.S., with Illustrations. A series of Articles especially relating to the Bendigo Gold Field, Victoria.

PRICE 2s., Post Free.

A NEW GUIDE TO THE IRON TRADE, OR MILL MANAGERS' AND STOCK TAKERS' ASSISTANT. By JAMES ROSE, of Batman's Hill Ironworks. Second Edition. Comprising a Series of New and Comprehensive Tables, practically arranged to show at one view the Weight of Iron required to produce Boiler Plates, Sheet Iron, and Flat, Square, and Round Bars, as well as Hoop or Strip Iron of any dimensions, to which is added a variety of Tables for the convenience of Merchants, including a Russian table.

"The Tables are plainly laid down, and the information desired can be instantaneously obtained."—*The Mining Journal.*

"900 copies have been ordered in Wigan alone, and this is but a tithe of those to whom the book should commend itself."—*Wigan Examiner.*

"The work is replete on the subject of underground management."—M. BANEK.

PRICE 8s. 6d.

THE COLLIERY READY-RECKONER and WAGES CALCULATOR. By JAMES IRELAND.

"Will be the means of preventing many disputes between pay clerks and colliers."—*The Mining Journal.*

PRICE 1s. 6d. Post Free.

TACKNOTE: A FORM OF LICENCE TO EXPLORE AND SEARCH FOR MINES, MINERALS, &c. Price 1s., post free.

NOTES ON THE PHILIPPINE ISLANDS: A PAMPHLET REPRINT. By FRANK KARUTH, F.R.G.S. Price 6d.

LONDON:
"THE MINING JOURNAL,"
18, FINCH LANE, E.C., and
3, DORSET BUILDINGS, SALISBURY SQUARE, E.C.

E. HENRY DAVIES, F.G.S.,
CONSULTING MINING ENGINEER,
6, GREAT WINCHESTER STREET, LONDON, E.C.
Author of "Machinery for Metalliferous Mines."
Joint Author of "Metalliferous Mines and Mining."
"Earthy and other Minerals and Mining."
Undertakes the INSPECTION and MANAGEMENT of MINES at home and abroad, and the introduction of approved Properties to Capitalists.
Minerals of all descriptions purchased in large or small quantities.

AUSTRALIAN MINERALS.

COLLECTIONS of AUSTRALIAN MINERALS for Show Case, or for technical purposes supplied to order. Price from £2 upwards On receipt of order with remittance a collection will made up and dispatched without delay.

MINES REPORTED ON.

J. B. AUSTIN, Mineralogist, Adelaide, S.A.

JUST PUBLISHED, PRICE 2s. 6d.

DUNCAN ON INVESTMENT AND SPECULATION IN STOCKS AND SHARES.

LONDON: EFFINGHAM WILSON, ROYAL EXCHANGE.

THE WEST BRITON AND CORNWALL ADVERTISER.

The best Family Newspaper for Cornwall and the West of England generally.

MONDAY AFTERNOON, 4 Pages, One Halfpenny.
THURSDAY AFTERNOON, 8 Pages, 56 Columns, One Penny.

The Largest and Most Influential Journal of Cornwall,
The Best Advertising Medium in the West of England.
The Largest Circulation of any Cornish Newspaper.

The "WEST BRITON" contains more reliable information respecting Cornish Mines than any other Newspaper.

HEARD and SONS, Publishers, Truro

THE GLASGOW HERALD
(ESTABLISHED 1782)
IS THE
LARGEST & LEADING ADVERTISING MEDIUM
OUT OF LONDON.

It is next to *The Times* and *The Daily Telegraph*, each of which it exceeds in extent of Advertising during several months of the year. It is unrivalled among Daily Papers for the completeness of its Reports of the Mining and Metal Markets, besides Commercial and General News for all classes of the community.

HEAD OFFICES: 65-69, BUCHANAN STREET, GLASGOW,
LONDON OFFICES: 65, FLEET STREET.

THE WEST AUSTRALIAN REVIEW.
A WEEKLY JOURNAL
For ALL INTERESTED in WEST AUSTRALIAN AFFAIRS.
EVERY THURSDAY, THREEPENCE.
Edited and owned by **ALBERT F. CALVERT, F.R.G.S.**, &c.
Author of "Discovery of Australia;" "Mineral Resources of Western Australia," &c.
"THE WEST AUSTRALIAN REVIEW" contains Special Articles on the Gold Fields of Western Australia.
OFFICE—47, OLD BROAD STREET, E.C.

J. A. JONES, Mining Engineer,
(M.Inst.M.M., M.N.Eng.Inst.M.M.E.)
GIJON (ASTURIAS), SPAIN.

BUSINESS CARDS.

AERIAL ROPEWAYS.
"OTTO" SYSTEM.
R. E. COMMANS (late Commans and Co.), 6, Queen Street Place, London, E.C.

ASBESTOS.
THE UNITED ASBESTOS COMPANY (Limited), Dock House, Billiter Street, London, E.C. Asbestos Goods of the highest quality.

CONCENTRATORS.
THE CLARKSON-STANFIELD CONCENTRATOR (Limited). New system for the treatment of gold, silver, copper, lead, and other ores. Address, 6, Colonial Avenue, Minories, London, E.

EXPLOSIVES FOR MINING.
NOBEL'S EXPLOSIVES COMPANY (Limited), Glasgow. Manufacturers of Gelignite, Gelatine-Dynamite, Dynamite, Detonators, Electric Detonator Fuses, &c., &c.

FUSE MANUFACTURERS.
WILLIAM BENNETT, SONS, & CO., Roskear Fuse Works, Camborne, Cornwall. Manufacturers of the celebrated "Crown Brand" Blasting Fuse for Mining Purposes.

IRON BUILDINGS.
ISAAC DIXON & CO., Liverpool, Iron roofs, Houses, and mining machinery buildings of every description.

"JODELITE."
(REGISTERED.)
JOSEPH DEE, 5, Cross Street, Manchester. The Best and Cheapest Preventative of Dry Rot, Decay in Timber, and Damp Walls, Wood Paving Blocks, Ropes, &c.

LUBRICATING OILS AND RAILWAY AND STEAMER GREASES.
F. J. KUHNE,
NEW YORK, and 30, GREAT ST. HELEN'S LONDON, E.C.
Represented by **WM. J. PATTISON.**

METAL PERFORATORS, &c.
J. & F. POOL,
METAL PERFORATORS & WIRE WEAVERS
COPPERHOUSE, HAYLE, CORNWALL.
SPECIALITIES: All descriptions of Perforated Metal Plates, Stamps' Battery-Screens, Wire Gauze and Sieves for Foreign and Home Mining, and other Purposes. Export orders carefully and promptly executed.

MINING INSTRUMENTS.
JOHN DAVIS & SON, All Saint's Works, Derby; and 118, Newgate Street, London. Mathematical instruments and miner's safety lamps.

MINING MACHINERY.
FRASER & CHALMERS (Limited), 43, Threadneedle Street, London, E.C. Mining machinery of the most approved design.

THOMAS LARMUTH and CO., Salford, Manchester, Manufacturers of Patent "Hirnant" Plant, Rock Drills, Air Compressors, Sinking Carriages, &c.
Agents for South Africa—Messrs. REUNERT and LENZ, Johannesburg.

ROBEY & CO. (LIMITED), Manufacturers of Steam Engines, Mining Machinery, &c. Makers of the Robey Patent Automatic Expansion Gear.—Globe Works, Lincoln.

ORE DRESSING MACHINERY.
THE LÜHRIG COAL AND ORE DRESSING APPLIANCES (LIMITED),
32, VICTORIA STREET, LONDON, S.W.
COMPLETE DRESSING PLANTS for Gold, Silver, Lead, and Copper Ores, &c., designed and erected.
LÜHRIG SINGLE AND COMPOUND VANNERS for Low Grade Ores and Tailings.
IMPROVED BREAKERS, ROLLS, JIGS, AND SEPARATING DRUMS.
Tests made with Samples at London Works Free of Charge.

ROCK DRILLS.
RICHARD SCHRAM & CO., 17a, Great George Street, Westminster, S.W.

STONEBREAKING MACHINERY.
W. H. BAXTER, Engineer, Leeds. Stone breaking and ore crushing machinery. All highest awards received for 12 years' Guaranteed for economy in power, efficiency and durability over all others. Catalogues free.

GATES IRON WORKS, 73A, Queen Victoria Street, E.C. The Gates Rock and Ore Breaker effects a great saving in power.

TUBE MAKER.
GEO. J. CHATTERTON, manufacturer of lead pipe, block tin pipe, and tinned composition gas tube, Caledonian Road, London, N

TURBINES.
C. L. HETT, Turbine Foundry, Brigg, England. Manufacturer of "Pelton Wheels," &c.

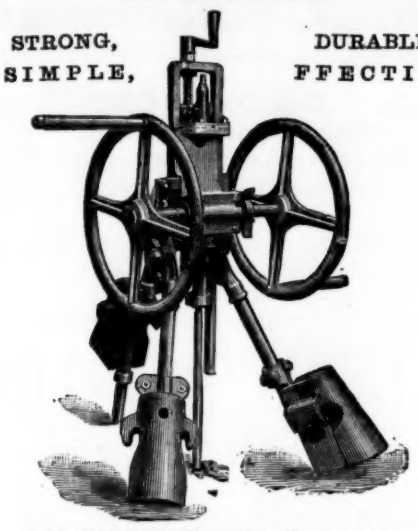
THE DUNDEE ADVERTISER,
The LEADING DAILY PAPER in SCOTLAND North of the FORTH.
FIRST in CIRCULATION. FIRST in INFLUENCE.
FIRST in ADVERTISEMENTS.
FIRST in PARLIAMENTARY NEWS.
FIRST in GENERAL INTELLIGENCE.
FIRST in COMMERCIAL INFORMATION.
The Recognised Advertising Medium for Dundee, Forfarshire, Fifeshire, Perthshire, and North of Scotland.
JOHN LENG and Co.,
7 to 25, Bank St., Dundee; and 186, Fleet St., London.

THE "MONARCH" ROCK DRILL,

FOR HAND OR ELECTRIC POWER,

MADE IN THREE SIZES.

STRONG, SIMPLE, DURABLE, EFFECTIVE.



TWO MAN POWER "MONARCH" HAND DRILL.

The most effective Machine for Boring Rock by Hand Labour or Electricity.

FOR PARTICULARS AND PRICES APPLY TO

J. H. WEATHERDON,
37, QUEEN VICTORIA STREET, LONDON, E.C.

The

LANCASHIRE PATENT BELTING & HOSE COMPANY.

(MANUFACTURERS).

Mining Specialties:—

'LANCASHIRE" Patent Belts
(Waterproof. Heatproof. Rotproof. The Original and Genuine Hair Belting).

WIDE "CARRIER" Belts.
(For Collieries, &c. In Hair, Hemp, or Cotton. Any required thickness).

HOSE PIPING—Suction and Delivery.
(Vulcanized Rubber and Canvas, or Seamless-woven Flax).

All other kinds of Belting, Hose, and Accessories for Collieries, &c., &c.

Send for complete Illustrated Catalogue to

The Mills, Tortworth Street, Manchester.

THE ADELAIDE OBSERVER.

Mining men and others in all parts of the world, who wish to secure the most complete budget of Australian news, and particularly of Mining Intelligence, will do well to have THE ADELAIDE OBSERVER regularly posted to them.

Special attention is given to Mining operations in Western Australia as well as in all other parts of Australasia.

THE ADELAIDE OBSERVER, Price Sixpence. Posted abroad, 7s. 6d. per quarter, or £1 10s. per annum.

HEAD OFFICE—GRENFELL STREET, ADELAIDE, SOUTH AUSTRALIA.
LONDON OFFICE—80, FLEET STREET.

THE OBSERVER is a splendid medium for Advertisements of Mining Machinery and requisites.

Advertisements received by all the principal London Agents or at the London address, given above.

CORNISH POST AND MINING NEWS,

A HIGH-CLASS UNIONIST NEWSPAPER.

Specially devoted to Cornish Mining, upon which it contains the fullest and most reliable information published. It is the only eight-paged newspaper printed in the Mining Division of Cornwall.

ISSUED EVERY FRIDAY MORNING,
PRICE ONE PENNY.

The Cornish Post and Mining News Co. (Limited),
East Charles Street, Camborne, Cornwal

MACARTHUR-FORREST PROCESS.

TO MINE OWNERS AND OTHERS

Having REFRACTORY GOLD ORES hitherto untreatable at a profit, the MACARTHUR-FORREST (PATENT) PROCESS OF GOLD EXTRACTION offers a solution of the difficulty.

The chief features of this Process are:—

SIMPLICITY, ECONOMY IN WORKING, and SMALL COST of PLANT.

PROPRIETORS:—

The Cassel Gold Extracting Co. (Ltd.)

Head Office—108a, Hope Street, Glasgow.
London Office—23, College Hill, Cannon Street, E.C.
Africa—The African Gold Recovery Co. (Ltd.), Johannesburg.
Australia—The Australian Gold Recovery Co. (Ltd.), 8, Post Office Chambers, Sydney, N.S.W., Charters Towers, Queensland, and Mr. Geo. S. Fowler, J.P., Adelaide.
United States—The Gold and Silver Extraction Co. of America (Ltd.), Denver, Colo.
Mexico—The Mexican Gold and Silver Recovery Co. (Ltd.), 2a, Calle de Providencia, No. 7, Mexico City, Mexico.
Chili—Mr. Wm. Jones, Calle Almendro, Valparaiso.
New Zealand—The Cassel Gold Extracting Co. (Ltd.), 205, Victoria Arcade, Auckland.

The CASSEL GOLD EXTRACTING Co. (Ltd.) are manufacturers of **CYANIDE**, suitable for the MacArthur-Forrest Process.

For terms, apply at Head Office of the Company,
108a, Hope Street, GLASGOW.

CHEAP TRANSPORT.

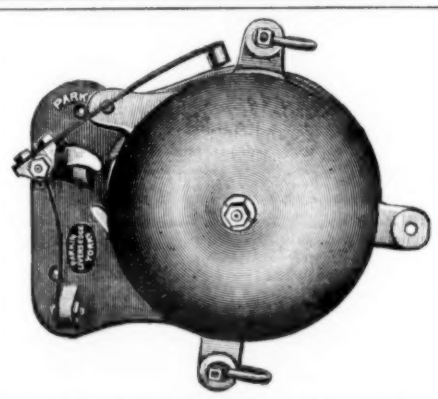
Advantages over other Systems:—

Economy in Cost and Working, Simplicity of Construction with High-Class Material, Long Spans and Steel Gradients Overcome, Reduced Wear of Cables and Few Supports.

Estimates, Pamphlets, & full Particulars on Application to the PROPRIETORS OF THE PATENTS

ROPEWAYS SYNDICATE, Limited.
150, Leadenhall Street, London, E.C.
Telegrams: "ROPEWAYS, LONDON."

WATCH THIS ADVERTISEMENT



EVERY OTHER WEEK.

These SIGNAL BELLS are the BEST and consequently CHEAPEST in the market.

All sizes from 4 in. to 12 in. for all purposes.

All Fittings steel. No perceptible wear after years of work Simple neat and good. Thoroughly reliable.

Prices and particulars—

PARKIN, LIVERSEDGE, YORKSHIRE.

SOLE AGENTS FOR SCOTLAND:

Messrs. ARCHD. BAIRD and SON,
59-61, WATERLOO STREET, GLASGOW.

Export Agent—Mr. STEPHEN HUMBLE, Junr.,
9, Victoria Street, Westminster, S.W.

The COUNTY GENTLEMAN'S PAPER for Cheshire, Shropshire, and North Wales is

THE CHESTER COURANT.

(ESTABLISHED 1730.)

The **CHESTER COURANT** goes into all the best houses, and has a Subscription List of remarkable scope and character.

It is a most suitable medium for advertising Patent Machinery used on large Farms or County Estates.

SHIPPING.

UNION LINE.

FOR SOUTH AFRICAN GOLD FIELDS.—WEEKLY SERVICE.—CAPE OF GOOD HOPE, NATAL, and EAST AFRICAN ROYAL MAIL STEAMERS.—The UNION STEAMSHIP COMPANY'S ROYAL MAIL and INTERMEDIATE STEAMERS will Sail as follows for the SOUTH and EAST AFRICAN PORTS, to ZANZIBAR, calling at LISBON, MADEIRA, and TENERIFE.

Steamers.	Antwerp.	Rotterdam.	Hamburg.	Southampton.
††Moor	—	—	—	Dec. 8
‡Greek, twin screw	Dec. 4	—	Dec. 8	Dec. 15
†Tartar	—	—	—	Dec. 22
‡§Spartan.....	—	Dec. 18	Dec. 22	Dec. 29

† Calling at Madeira. ‡ Via Lisbon and Tenerife. § To East Africa.

The New Twin Screw s.s. *Norman* (7392 tons) will sail February 2, 1895.
Free railway tickets from London and Plymouth to Southampton.
Cheap Tickets are issued for Passengers' Friends.
The Union Line Express is despatched from Waterloo Station (Main Line Platform) every Saturday.

RETURN TICKETS ISSUED.

Apply to the UNION STEAMSHIP COMPANY (Limited), Canute Road, Southampton; 14, Cockspur Street, London, S.W; and South African House, 94 to 96, Bishopsgate Street Within, London, E.C.

CASTLE LINE.—CAPE & NATAL MAILS.

WEEKLY SERVICE FOR THE GOLD FIELDS OF SOUTH AFRICA.—The CASTLE COMPANY'S STEAMERS leave LONDON (East India Dock Basin, Blackwall) every FRIDAY, and sail from SOUTHAMPTON every SATURDAY.

Steamers.	London.	Southampton.
†Doune Castle (via Canaries)	Dec. 7	Dec. 8
Grantully Castle (via Madeira)... ...	Dec. 14	Dec. 15
Lismore Castle (via Canaries)	Dec. 21	Dec. 22
Hawarden Castle (via Madeira)... ...	Dec. 28	Dec. 29

† For Madagascar and Mauritius.

Return tickets to all Ports.

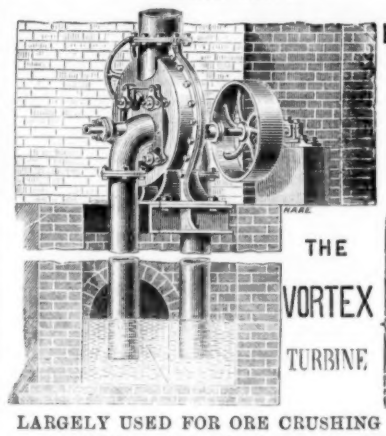
Free Tickets by Castle Express from Waterloo to Southampton.

Apply to DONALD CURRIE and Co., 3, Fenchurch Street, London, E.C.

West End Agency, THOS. COOK AND SON, 13, Cockspur Street.

PRIZE MEDALS { London, 1862. Paris, 1867. Calcutta, 1884. **G. GILKES & Co.,**

KENDAL.



Illustrated Descriptive Pamphlets, with numerous Testimonials supplied on application.

Self Contained.
Easily Fixed.
Economical.
Efficiency Guaranteed.
Regular in Speed

LARGELY USED FOR ORE CRUSHING AND ELECTRIC LIGHTING, AND MILLS OF ALL DESCRIPTIONS.

ONLY GOLD MEDAL FOR ALLOYS, INVENTIONS EXHIBITION.

"PHOSPHOR-BRONZE." (Cog Wheel Brand.)

The Best Alloys for all Wearing parts of Machinery, Bearings, &c.

BEWARE OF ALL IMITATIONS, & SPECIFY THE COMPANY'S MAKE.

BULL'S METAL, Ingots, Forgings, Castings, Stampings, Rods and Sheet. } Specially adapted for Mining Work.

The Phosphor Bronze Company, Ltd.

87, SUMNER STREET, SOUTHWARK, LONDON, S.E.

THE STAFFORDSHIRE ADVERTISER.

ESTABLISHED 1795.

The Principal County Paper in the Midlands.

Advertisers will find it the BEST MEDIUM for reaching superior class of readers over large area centred by Staffordshire fifth county in population and sixth in wealth.

Published at Stafford every SATURDAY (Price Twopence), and to be obtained at Euston and Principal Bookstalls between London, Liverpool, and Manchester.

NORTH QUEENSLAND REGISTER,

THE LEADING NORTH QUEENSLAND WEEKLY,
PUBLISHED AT CHARTERS TOWERS, NORTH QUEENSLAND.

MINING A SPECIALITY.

Subscription £1 4s. per annum; including postage to Great Britain £1 15s. per annum.

Address communications to—

THE NORTHERN MINER PRINTING AND PUBLISHING COMPANY, CHARTERS TOWERS, QUEENSLAND.

BREAKFAST—SUPPER.

EPPS'S

GRATEFUL—COMFORTING.

COCOA

BOILING WATER OR MILK.

THE WOLHUTER GOLD MINING COMPANY, LIMITED.

ITS PROBABLE LENGTH OF LIFE AND PROSPECTS OF PROFITS.—CAPITAL £120,000, ALL ISSUED.

(BY A CORRESPONDENT.)

THIS property is close to Johannesburg, between the Meyer and Charlton and Spes Bona properties, and consists of 102½ main reef claims, 17 of which are outcrop and the remainder dip claims. It extends in length from east to west for 2600 feet along the outcrop of the main reef series, and in average breadth for 1700 feet to its southern dip boundary. It also owns the dip claims of the Spes Bona and George Goch properties, extending laterally for about 1700 feet, and having an average breadth of over 1000 feet, besides its own 28 acres to the north of the main reef series which adjoins Jeppes Town, a growing suburb of Johannesburg.

This portion is laid out in town lots, and as a building site is unquestionably a valuable asset. The tramway lines extend to this estate. The whole of the property is freehold. The beds of conglomerate at present being worked are the main reef, giving 15 dwts. by fire assay over a width of 4 feet; the south reef, 6 inches wide; the main reef leader, 9 inches; and the north reef, 6 inches wide. As 2 feet of ore has to be taken out of each of the last three reefs, this would give about 10 feet of ore from the four beds on the property, which is again reduced by sorting out a portion of the non-auriferous ore to about 9 feet. From the outcrop to the southern boundary line is 1700 feet surface measurement, which at an angle of 45° dip gives 2404 feet of these beds on the incline, and 1700 feet the vertical depth, at which they enter the deep level ground.

The present angle of the dip is 50° to 55°, but as will be seen from reference to the *Statist's* article of October 13th, page 438, upon the adjoining Meyer and Charlton property, that company's angle of dip, instead of flattening in depth has increased to over 60°. From these measurements an approximate estimate of the tonnage of ore contained in the four beds traversing this property can be made. Length of outcrop 2600 feet, breadth on incline of beds 2404 feet, at an angle of 45°, and average width of beds, 9 feet, gives 56,253,600 cubic feet, and taking 13 cubic feet in the solid as equal to 1 ton of ore gives 4,327,200 tons.

To this must be added the section of ground to the dip of the Spes Bona and George Goch properties, which is 1700 feet in length and 1414 feet in breadth on the incline, with 9 feet of thickness of the reefs, gives 21,634,200 cubic feet of ore, and taking 13 feet in the solid as equal to 1 ton gives 1,640,170 tons. This gives a total of 5,967,370 tons in both sections, from which deduct 1,967,370 tons for faulty poor zones and quantity treated to date, and 4,000,000 still remains to be treated. With the new 50 stamps and the present 40 at work, supposing 10,000 tons were crushed monthly, or 120,000 tons per annum, the life of the mine would be 33 years.

The following are the results for the present year with a 40-stamp mill:—

1894.	Tons milled.	Ozs. Dwts.	Tons tailings.	Ozs. Dwts.	Profit.	Tons of ore in reserve.
January...	3,470	1,710 9 85	4,283	7·0 3·31	£2,883	40,000
February	3,480	1,710 9.91	3,215	7 7 4·46	2,697	—
March.....	3,655	1,670 10·20	3,813	760 3·99	2,333	48,000
April	3,440	1,820 10·60	2,·46	7 8 4·00	2,071	—
May.....	3,340	·,715 10·27	4,085	820 4·03	1,504	—
June	3,400	1,571 9·16	3,505	8·0 ·96	2,·00	—
July	2,386	1,7·8 1··0e	2,300	633 4·81	2,130	80,700
August ...	3,4·0	1,725 10·05	3,02	809 5·35	2 500	—
September	2,485	1,755 10·17	—	9·0 6·12	—	100,·00

It will be observed that about 2 tons of ore are being developed for every ton crushed, and that the monthly profits are at present being reduced by having to bear the cost of extra development. As 30 of the present stamps are of light weight the mill only averages about 3 tons per stamp per day, but the 50 new 1050 lbs. stamps, which will be at work by the new year, will crush 4½ tons per stamp per day, or an increase of about 6500 tons per month. The ore at present is giving about 14 dwts. per ton, but it is expected by a more careful system of sorting, for which provision is being made, to increase the yield per ton by another pennyweight.

In comparison with its neighbour—the Meyer and Charlton—whose shares are at £7, this property has an additional rich bed of ore, and has 102½ auriferous claims, to 40¾ owned by the Meyer and Charlton Company. Of course, the Meyer and Charlton capital is only £85,000 to £120,000. The capital of the Wolhuter and the former company has paid 220 per cent. since its start to 10 per cent. paid by the latter. But what I maintain is that this company is still in its infancy, and is in a fair way to eclipse the Meyer and Charlton Company. The new stamps are so planned as to admit of a further 50 stamps being added. I understand that it is intended to increase the capital by 10,000 shares, guaranteed at 50s., to meet the cost of new works, and that it is the intention of the directors to pay out all profits as dividends. Anyone, therefore, buying now will receive a considerable bonus.

ORIENTAL AND SHEBA VALLEY UNITED GOLD MINING COMPANY, LIMITED (in liquidation).—The ordinary general meeting of this company was held at Cannon-street Hotel, on Monday.—Mr. A. T. Layton (who presided), in moving the adoption of the report, said directly the resolution for winding up the company was confirmed, all the assets at present in the hands of the liquidators would be dealt with.—Mr. A. J. Newton seconded the motion, which was agreed to.—A meeting was then held to receive the liquidator's statement of accounts.—Mr. Layton stated that the liquidators received from the Sheba Company 150,000 ordinary shares, which was the purchase price, and all their assets in the Oriental Sheba Valley Company, and at the very earliest possible moment they would proceed to distribute among the creditors, and the preference shareholders who had agreed to receive them, the shares of the Sheba Company. They had further distributed among the ordinary shareholders their proportion of Sheba shares, taken at the rate of one Sheba share for every seven Orientals held by the shareholders, and had made a cash payment of 6d. for every Oriental share, and dealt with the fractions of shares upon an estimated equitable basis. They had a balance in hand of £2371, and there were liabilities which would absorb nearly the whole of that amount, leaving about ¼d. per share to be distributed. He concluded by moving the adoption of the liquidator's accounts.—This was seconded by Mr. Newton, and carried.—The Chairman stated that when the liquidators sent out the circular announcing that they had received from the Sheba Company 150,000 shares, and intimated that they would proceed to a division, preference shareholders holding 380 shares did not elect to take the Sheba shares in exchange for the preference shares at the time, but had since done so. He, therefore, moved that the liquidators be at liberty to transfer such shares to them.—The motion was duly seconded and carried.

CAPE COLONY AND THE POSTAL UNION.—Arrangements have been made for virtually completing the Universal Postal Union on January 1, 1895, when the Cape Colony will enter the Union.

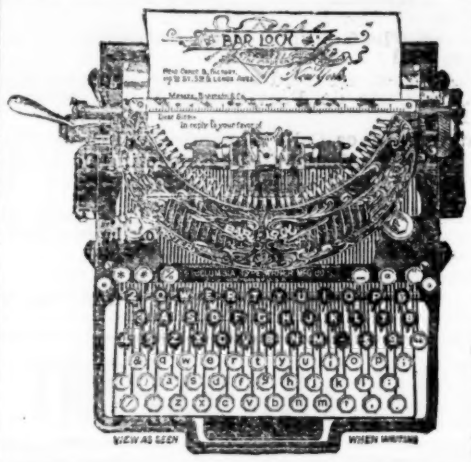
THE UNITED ASBESTOS CO. (Limited)

DOCK HOUSE, BILLITER STREET, LONDON, E.C.

PIONEERS of the ASBESTOS Trade. The ONLY COMPANY in the WORLD owning and working Asbestos Mines both in ITALY and CANADA. All goods are made at our Works, near London, and are of the best possible description.

SPECIFY "SALAMANDER" BRAND.

Depots: NEWCASTLE ON-TYNE, Quay Side; MANCHESTER, 34, Deansgate LIVERPOOL, 33, James. Street; GLASGOW, 54, Robertson Street; CARDIFF, 135, Bute Street; BRISTOL Provident Buildings, Clare Street ST. PETERSBURG, Gostinoe Dvor, (interior) No. 51.



THE ROYAL BAR-LOCK TYPEWRITER

RANKS FIRST IN EVERY WAY.

SENT ON FREE TRIAL.

We Sell by MERIT alone, and all who wish to test our Machines should apply to

THE TYPEWRITER COMPANY, LTD.

12 & 14, QUEEN VICTORIA STREET.

Branches and Local Agents throughout the World

From His Grace the Duke of Rutland.
Belvoir, Grantham,
December 1st, 1879.

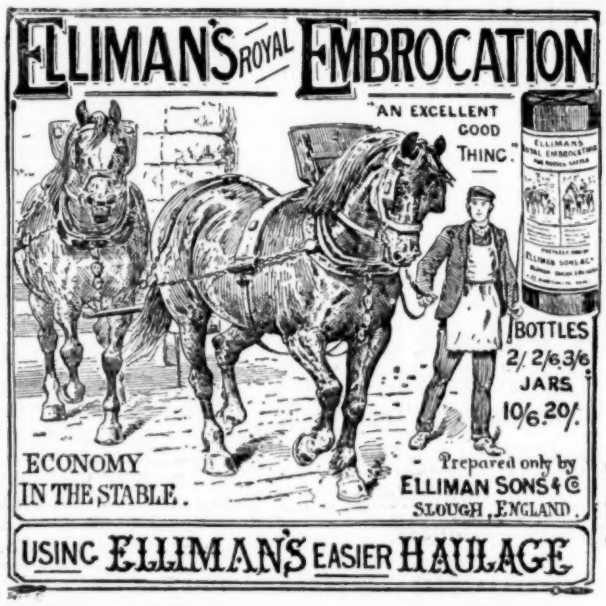
SIRS,—Elliman's Royal Embrocation is used in my stables; I think it very useful.
RUTLAND.
Master of the Belvoir Hounds.

From the Earl of Harrington.
January 9th, 1889.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it the best that I can obtain. HARRINGTON.
Master of the South Wilts Hounds.

From Major M. J. Balfe,
South Park.
June 16th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I can highly recommend it.
M. J. BALFE.
Master of the Roscommon County Staghounds.



From Lord Haddington, Tyningham, Prestonkirk, N.B.
December 27th, 1885.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it indispensable in any stable, but especially in the stable of a Master of Hounds.
HADDINGTON.
Master of the Berwickshire Hounds

From R. Burdon Sanderson, Esq., Warren House, Belford.
July 10th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it very useful.
R. BURDON SANDERSON.
Master of Percy Foxhounds.

From Wm. J. Buckley, Esq., Penyfai, Llanelly.
July 16th, 1892.

DEAR SIRS,—I have much pleasure in recommending your Royal Embrocation. I always keep a stock in my stables and kennels. My farm bailiff has also found it of much value among my herd.
WM. J. BUCKLEY.
Master of Carmarthenshire Foxhounds.

THE AFRICAN REVIEW.

THE RECOGNISED ORGAN OF THE SOUTH AFRICAN MINING INDUSTRIES.

Published every Saturday. Price 3d. Subscription 15s., Post Free in the U.K., or £1 1s. abroad, payable in advance. Cheques and Postal Orders to be made payable to WILLS, CANNELL, & RIDER HAGGARD (LIMITED), 10, Basinghall Street, E.C. Subscription forms on application.

Mining News from the WITWATERSRAND and RHODESIAN GOLD FIELDS, the DIAMOND FIELDS, SOUTH WEST AFRICA, MOZAMBIQUE, &c. Special Correspondence from JOHANNESBURG, KIMBERLEY, and elsewhere.

RELIABLE STATISTICS. Financial and Commercial Intelligence from Cape Colony, Congo Free State, East Africa, Egypt, Mozambique, Morocco, Natal, Orange Free State, Rhodesia, South West Africa, Transvaal, &c.

THE AFRICAN REVIEW may be obtained at any of Messrs. W. H. SMITH and SONS' Bookstalls, or from our Agents as under:—

London—Blair's, Pottle's, and Everett's, Royal Exchange; Leathwaite and Simmonds, 1, Pope's Head Alley. Liverpool—J. Trenwith Wills, African Chambers. Capetown—Twycross and Co. Kimberley—W. Roper, *Advertiser* Office. Port Elizabeth—W. Harris and Co. Durban—Brunskill and Henderson. Pietermaritzburg—P. Davis and Sons. Barberton—A. W. Bayley and Co., *Gold Field News* Office, Johannesburg—The S. A. Publishing Company (Limited), Leakes Chambers, Simmonds Street; The *Diggers' News* Co. (Limited), Simmonds Street P Davis and Sons, Pietersburg—Wm. Brown, *Zoutpansberg Review*. Fort Salisbury (Mashonaland) W. E. Fairbridge.

THE MONTAN ZEITUNG

For Austria, Hungary, and the Balkan States, Graz (Austria), has the largest circulation of any technical paper on the Continent, and

IS THE BEST MEDIUM

to advertise English Machinery and Appliances for

MINING, MANUFACTURING, AND ALL INDUSTRIAL PURPOSES

throughout Austria, Hungary, Servia, Bulgaria, Roumania, Turkey Montenegro, &c.

For general information and scale of Advertisements, apply to

F. MANSFIELD and CO.,
2, Lion Chambers BRISTOL.

EL MINERO MEXICANO.

The Mining and Industrial Journal of Mexico.
ESTABLISHED 1873.

Published in the City of Mexico every THURSDAY in the Spanish Language.

Taken by Mine Owners, Capitalists, Manufacturers, Merchants the richest and most liberal people, all over Mexico.

THE BEST ADVERTISING MEDIUM.

MEXICAN PATENT & TRADE MARK AGENCY,
3A, Independencia No. 1, City of Mexico.
RICHARD E. CHISM, M.E., Editor and Proprietor.

THE INDIAN ENGINEER.

AN ILLUSTRATED WEEKLY JOURNAL FOR ENGINEERS IN INDIA AND THE EAST.

The "INDIAN ENGINEER" contains the latest and most authentic information on all subjects connected with Engineering enterprise in India and the East.

Subscribers when in England can make use of our London Office (1-2, Victoria Mansions, Westminster, S.W.), and can have letters addressed there and forwarded when travelling.

Correspondence invited on any subject which may be of interest to the profession.

RATES OF SUBSCRIPTION (payable in advance, including a copy of the INDIAN ENGINEER'S DIARY):—

Thick paper Edition, including postage		Thin paper Edition, including postage	
Yearly	Rs. 20	Yearly	Rs. 15
Half-yearly	Rs. 11	Half yearly	Rs. 8
Quarterly	Rs. 6	Quarterly	Rs. 5

Published at 5-6, Government Place, Calcutta.

THE IRON AND COAL TRADES REVIEW.

With which is Incorporated

The Bulletin of the British Iron Trade Association

The IRON AND COAL TRADES REVIEW is extensively circulated amongst the Iron Producers, Manufacturers, and Consumers, Coal Owners, &c., in all the Iron and Coal Districts. It is, therefore, one of the Leading Organs for Advertising every description of Iron Manufactures, Machinery, New Inventions, and all matters relating to the Iron, Coal, Hardware, Engineering, and Metal Trades in general.

Offices of the Review: 222-225, Strand, W.C.
Remittances payable to W. SHAW.

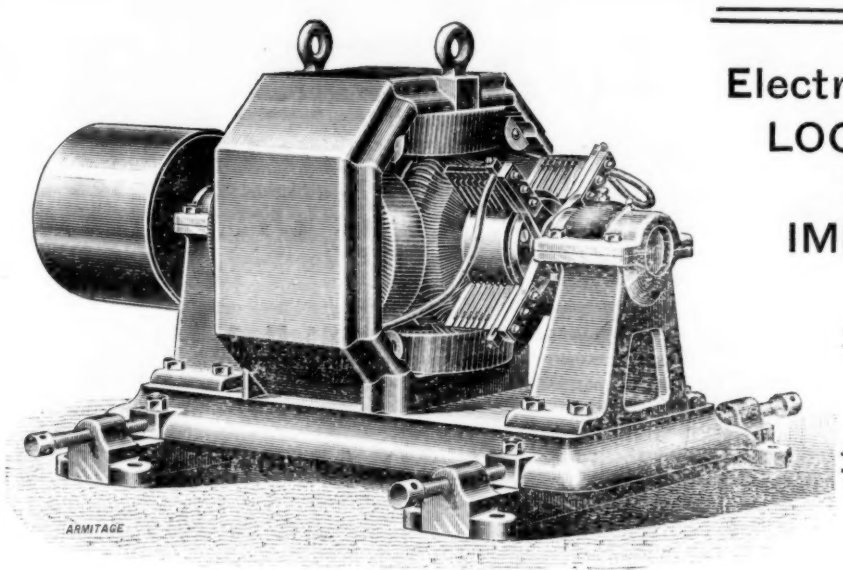
ELECTRICAL MACHINERY

COMPLETE EQUIPMENTS FOR LIGHTING and POWER PURPOSES.

KEITH MOTORS and DYNAMOS

FROM 1 TO 500 H.P.

SPECIAL STUDY
given to
POWER
TRANSMISSION
PLANT for
MINING PURPOSES.



Electric Hauling Engines,
LOCOMOTIVES, and
RAILWAYS on the
IMPROVED CONDUIT
SYSTEM.

Electric CRANES, HOISTS,
PUMPS, DRILLS, &c.

ESTIMATES

ON APPLICATION.

The SANDYCROFT Foundry and Engine Works Company, Ltd.,

Telegrams:
"SANDYCROFT," Hawarden.

Near CHESTER.

ESTABLISHED 1838.

SAFETY BLASTING IN COAL AND SHALE, ETC.

SETTLE'S Patent GELATINE WATER-CARTRIDGE

NOBEL'S EXPLOSIVES COMPANY (Limited), Glasgow, having acquired from Mr. MILES SETTLE the Sole Patent Rights of his Water-Cartridge System of Blasting have now arranged to supply through their local Agents all the Appliances required in connection therewith.

ADVANTAGES OF USING SETTLE'S PATENT GELATINE WATER-CARTRIDGE:

1.—SAFETY IN BLASTING. 2.—NO SMOKE. 3.—NO SPARK OR FLAME. 4.—NO FUMES. 5.—ALL COAL GOTTEN IN LUMPY CONDITION AND WITH A MUCH SMALLER PERCENTAGE OF SLACK THAN IN BLASTING WITH POWDER. 6.—GREAT SAVING OF COST OWING TO MORE EFFICIENT BLASTING, AND TO REDUCTION OF MANUAL LABOUR. 7.—SIMPLICITY OF THIS METHOD OF BLASTING.

Trained Experts will carry out experiments, and instruct Colliery Managers, Miners, &c., FREE OF CHARGE, on application to Nobel's Explosives Company (Limited), Glasgow, or to their Consulting Engineer.

The use of the WATER-CARTRIDGE is recommended by the Royal Commission on Accidents in Mines.

For full information apply to **NOBEL'S EXPLOSIVES COMPANY** (LIMITED), GLASGOW, or to H. ENFIELD TAYLOR, M.Inst.C.E., the Company's Consulting Engineer, 15, Newgate Street, Chester.

MANUFACTURERS OF GELATINE-DYNAMITE, DYNAMITE, DETONATORS, ETC. ETC.

TONITE

IS RECOMMENDED TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, AS BEING THE SAFEST OF ALL EXPLOSIVES.

TONITE is a most efficient and economical blasting agent, and is largely in demand. It does not contain any Nitro-glycerine, and is, therefore, exempt from the dangers of exudation, or of freezing and its attendant process of thawing.

THE COMPANY MANUFACTURE

DETONATORS FOR USE WITH TONITE.

Also supply Safety Fuse and Electric Firing Appliances of best description.

Address—THE COTTON POWDER COMPANY (Limited),
116, QUEEN VICTORIA STREET, E.C.
WORKS FAVERSHAM, KENT.

THE UNITY SAFETY FUSE CO.

ESTABLISHED 1846.

MANUFACTURERS OF ALL KINDS OF

SAFETY FUSE

OF THE BEST QUALITY FOR USE IN
MINING, QUARRYING, SUBMARINE,
AND ALL OTHER BLASTING OPERATIONS.
SPECIALLY PREPARED to SUIT any CLIMATE.

Works: SCORRIER, CORNWALL.

FRANCIS & JENKINS,

GREENFIELD WORKS, LLANELLY, SOUTH WALES,

Manufacturers of Steel-pointed Spades and Shovels, Draining and Grafting Tools, &c. Also Manufacturers of

COPPER WORKS LADLES,

To which special attention is given. Rabble Heads, Paddles, and every description of Light Hammered Work.

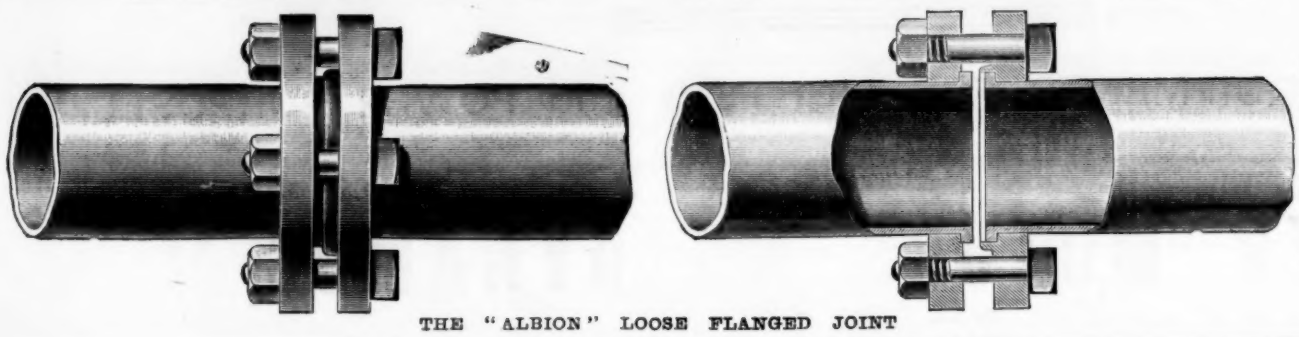
THE WESTERN DAILY MERCURY.
The Paper for News.
The Paper for Advertisements.
The Paper for the People.

THE WESTERN WEEKLY MERCURY.
The Paper for the Household.

These Journals have an enormous circulation throughout Devon and Cornwall, and are conveyed by specially chartered trains.
OFFICES: PLYMOUTH.

SPECIALITE:—ELECTRIC WELDING.

LLOYD & LLOYD



THE "ALBION" LOOSE FLANGED JOINT

WORKS:
Albion Tube Works, BIRMINGHAM.
Coombs Wood Tube Works, HALESOWEN.

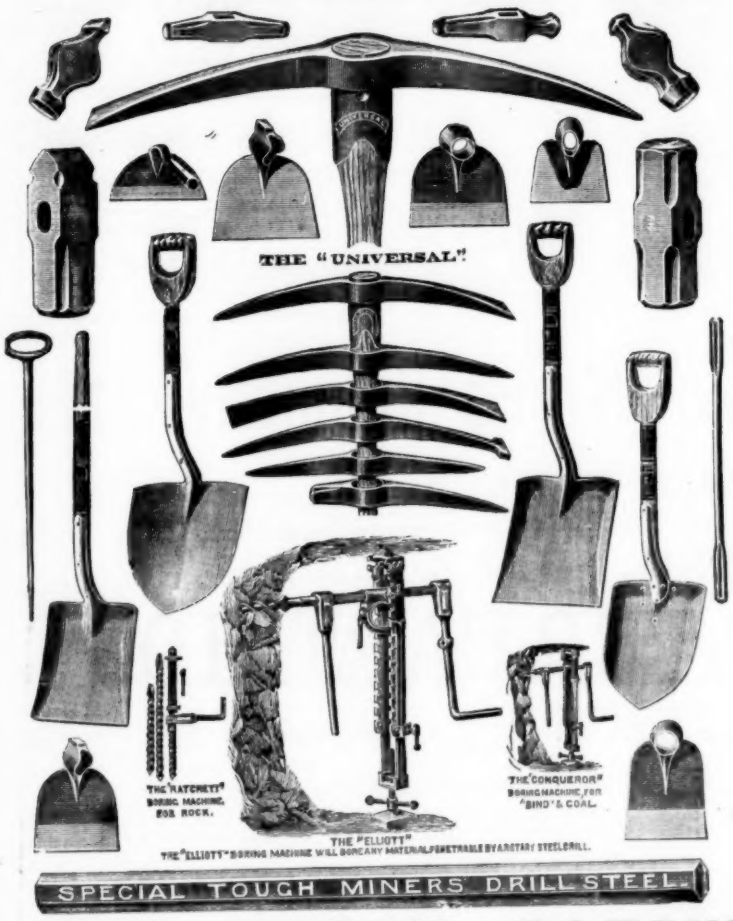
WAREHOUSES:
London—90, Cannon Street, E.C., and 167, Upper Thames Street.
Birmingham—Nile Street, Sheepcote Street, & 10, Coleshill Street.
Liverpool—63, Paradise Street.
Manchester—42, Deansgate.

IRON & STEEL TUBES
FOR ALL MINING PURPOSES.

HIGH-CLASS TOOLS,

For Miners, Quarrymen, Contractors & Agriculturists,

OF ALL PATTERNS & FOR ALL MARKETS.


THE "UNIVERSAL"
THE "RATCHET" BORING MACHINE FOR ROCK.
THE "CONQUEROR" BORING MACHINE FOR MINE'S & COAL.
THE "ELLIOTT"
THE "ELLIOTT" BORING MACHINE WILL BORE ANY MATERIAL PENETRABLE BY A ROTARY STEEL DRILL.
SPECIAL TOUGH MINERS DRILL STEEL

Makers of the

"UNIVERSAL" & "ACME" MINING & NAVVY PICKS.

HAND AND POWER BORING MACHINES
FOR ROCK AND COAL.

PICKS, SHOVELS, SPADES, FORKS, HOES, AXES,
HAMMERS, WEDGES, CROWBARS.

Special Tough Drill Steel, Shear,
Cast, and Blister Steel.

SAWS, FILES, AND RASPS.

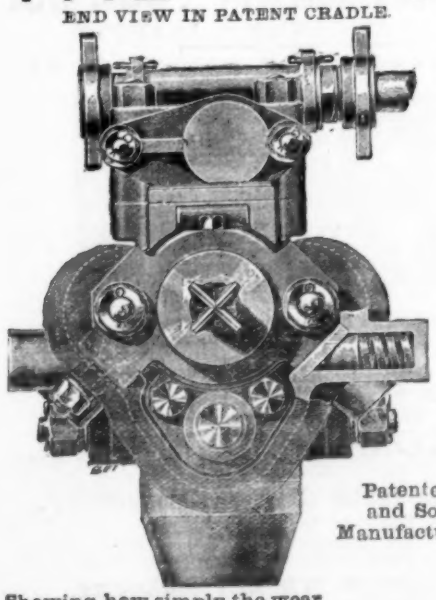
Importers of Hickory Handles.

THE HARDY PATENT PICK COMPANY (LIMITED),

Sheffield, England.

THE "DAW" ROCK DRILL.

END VIEW IN PATENT CRADLE.



Showing how simply the wear in Guides is Automatically taken up.

Highest Award, International Mining Exhibition, London, 1890.
Highest Award and Medal, World's Fair, Chicago.

PATENT QUARRY BARS AND TRIPODS.

Improved Tunnel Columns. Steam and Air Hose.

Air Compressing Machinery. Hauling and Winding Engines.

Kohinoor Steel
for Rock Drill and Miners' Borers.

On view at the Offices, where Catalogues, Estimates, and all Particulars can be obtained on Application.

Patentees and Sole Manufacturers, **A. & Z. DAW,** 11, Queen Victoria Street, LONDON, E.C.

Registered Telegraphic Address, "GULDNES, LONDON."
A.B C Code. Fourth Edition.

Representatives in South Africa: Messrs. BROWN & McKENZIE, Johannesburg.

"VALVE-OLEINE:"

675 DEGREES FIRE TEST.

MASTER MECHANICS, Purchasing Agents, Engineers and Practical Builders of costly Steam Plants and Locomotives, &c., will be pleased to know that a Lubricant is now produced of such extraordinary high Fire Test as to make it proof against the great heat to which it is subjected, and is, therefore, a PERFECT LUBRICATOR where products of lower grade and fire tests pass off at once, leaving the parts subjected to wear, or greatly increasing the consumption of oil.

"VALVE-OLEINE" is a product in the highest state of filtration, is of the greatest viscosity, is entirely free from all acids and absolutely non-corrosive, and without doubt the finest and most thoroughly reliable CYLINDER LUBRICANT now on the market, and will naturally Lubricate 200 to 300 per cent. more than products of lower test.

☞ It is not only the BEST but the most ECONOMICAL lubricant. Manufacture and Sale controlled exclusively by

The Reliance Oil and Grease Co.,

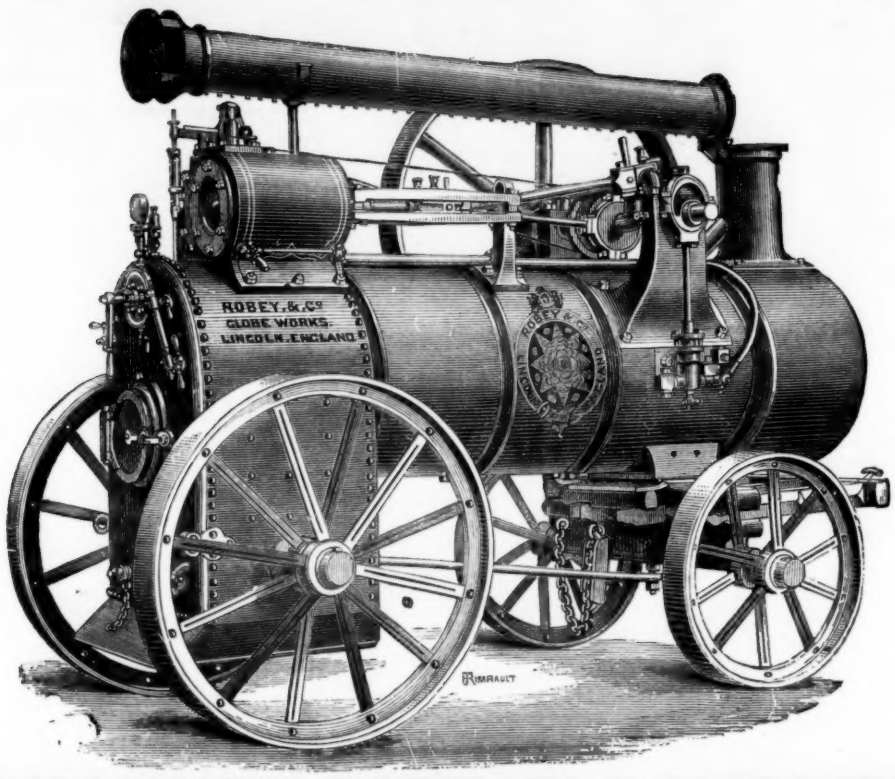
CLEVELAND, OHIO, U.S.A.

AGENTS WANTED EVERYWHERE.

Write for Full Particulars and our New Catalogue of large line of products. SAMPLES FREE.

Cable Address: "OLEINE." Cleveland, O.

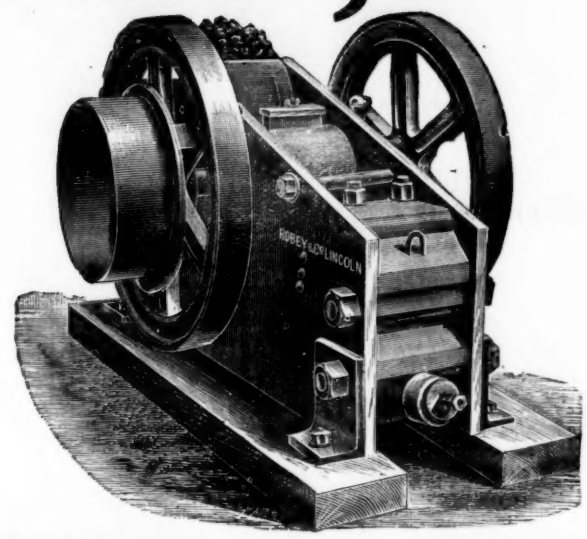
ROBEY & Co., LIMITED.



EXPANSION PORTABLE ENGINES

Possess the following advantages:—Great Strength; Extreme Simplicity of Design; First-Class Workmanship; Great Economy in Fuel; Ease of Management; Absolute Safety in Working; Great Power and Durability.

Also manufacturers of Portable Engines, Semi-Portable Engines, Robey Engines and Locomotive Boilers combined (both compound and simple) Vertical Engines High Speed Engines, Horizontal Fixed Engines (simple and compound) Sugar Mills, Locomotive, Cornish and Vertical Boilers, Winding Engines, Head Gears, Mine Pumps, Centrifugal Pumps, Patent Gas and Oil Engines, and every description of Machinery for Builders and Contractors.



IMPROVED STONE BREAKER

AND

ORE CRUSHER

For crushing Ores, Quartz, Road Metal, Railway Ballast, Cement, Phosphates, Coke, Coal, &c.

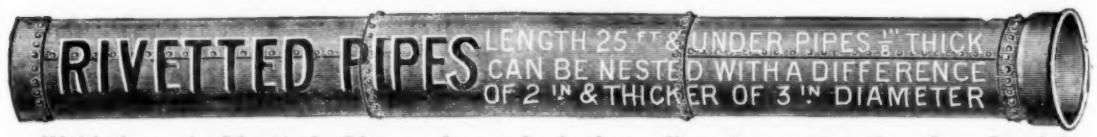
The above illustrates the most simple form of Stone Breaker made, and has no equal for easy transport over bad roads or mountainous countries. Steel has been largely employed, and in the place of the usual heavy Cast-Iron Frame a neat and much stronger Frame of rolled steel is used, with a saving of some tons in weight. The great depth of the sides gives it increased stiffness, and the materials of which the machine is constructed ensure great rigidity and thorough adaptability for heavy work.

The parts are few and simple, and thoroughly accessible for oiling adjusting, and cleaning, and the liability to breakage is reduced to a minimum.

The jaws are easily renewed, and are made of our own special mixture and treatment, rendering the face well suited for quartz. These jaws can be adjusted while the machine is running so as to reduce the material to any desired size, and are adapted for either cubing or crushing.

GLOBE WORKS, LINCOLN.

THOMAS PIGGOTT & Co., Ltd., ATLAS WORKS, BIRMINGHAM.



Telegraphic Address:—

"ATLAS," BIRMINGHAM.

Welded and Rivetted Pipes, from 8 inches diameter upwards, for Conduit of WATER, GAS, AIR, and other purposes

Large Quantities hve been Sold for Mining Purposes and for Conducting Water to Turbines.

London Office:—

14, GREAT St. THOMAS APOSTLE, E.C.

Telegraphic Address:—

"INTERSECTION," LONDON.

The Head does not revolve when Breaking.

EXTERIOR VIEW—Showing Crushing Head.

Manufacturers of Mining Machinery and complete Macadam Plants.

GATES ROCK AND ORE BREAKER.

Capacity in Tons of 2000 Pounds.

Size 0—2 to 4 tons per hour.	Size 3—10 to 20 tons per hour.	Size 6— 30 to 60 tons per hour.
„ 1—4 to 8 „ „	„ 4—15 to 30 „ „	„ 7— 40 to 75 „
„ 2—6 to 12 „ „	„ 5—25 to 40 „ „	„ 8—100 to 150 „

Passing 2½ in. ring, according to character and hardness of material.

GREAT SAVING IN POWER. Adjustable to any Degree of Fineness.

The principle involved in this Breaker acknowledged to be the greatest success ever introduced into Stone Breaking machinery.

Send for Catalogue, containing over 500 references of Contractors, Miners, Railwa Companies, Cement Makers, etc.

By the use of this machine cubical road metal can be produced at a low cost.

GATES IRON WORKS (A)

73a, QUEEN VICTORIA STREET, E.C., LONDON, ENGLAND.
44, Dey Street, New York, U.S.A.
WORKS: 50, South Clinton Street, Clybourn Ave and Willow Street, Chicago,
"AGENTS FOR GATES CORNISH ROLLS PULVERISER."

Simple, Durable, Compact, Dustless, giving a Finished Product direct from the Machine. The best Ore Granulator for Leaching and Concentrating in the World.

Awarded the ONLY Gold Medal for Stonebreaker at the International Inventions Exhibition, in competition with all other makes.

THE BLAKE-MARSDEN 1884 Patent

Lever Hand-Hammer Action Stonebreakers and Ore Crushers,

NEW PATENT FINE CRUSHER OR PULVERIZER.

Fitted with Patent Reversible Cubing and Crushing Jaws in Five Sections, and with Surfaced Bocks, requiring no White Metal in fixing. Crucible Cast Steel Levers and Toggle Cushions, Brass or Gun Metal Bearings throughout.

Positive Draw Back Motion taking no power to work, and entirely dispensing with the old expensive Steel Embedde .R. Spring. The motion or length of Stroke of the Jaw can be increased or decreased at pleasure, to suit any material.

OVER 5000 IN USE.

70 First-Class Gold and Silver Medals

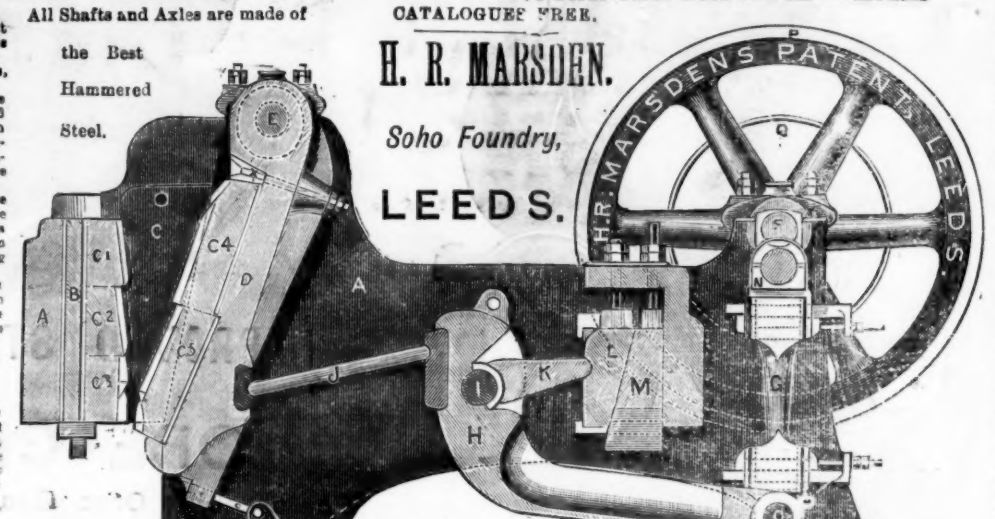
CATALOGUES FREE.

All Shafts and Axles are made of the Best Hammered Steel.

H. R. MARSDEN.

Soho Foundry,

LEEDS.



THIS HAND-HAMMER ACTION STONEBREAKER TAKES MUCH LESS POWER THAN ANY OTHER EXTANT.

PULVERIZER TESTIMONIAL

"The Fine Crusher we had from you in August last is an excellent pulverizer, and rapidly reduces hard material to a fine powder."

"The Pulverizer has now been working two months, and answers its purpose most satisfactorily."

"It is with the greatest satisfaction that we write these few lines in order to acquaint you that the 12×3 Pulverizer you provided us with, has quite fully given the results you represented to us, completely reducing our material to an impalpable powder at one operation. Should you refer any one to us we should have much pleasure in recommending the machine."

"I have great pleasure in bearing testimony to the merits and capabilities of your patent combined fine crusher and sieving apparatus. I have tried it on a variety of ores and minerals, and it pulverizes them with equal success. You can put in a small paving stone and bring it out like flour."

"In reply to your favour, I have much pleasure in informing you that the 12×3 Pulverizer we had from you is giving us every satisfaction. The material we are operating on is an exceptionally hard one. I am well satisfied with its working."

"Our experience is that the motion and mechanical arrangements of your machine are the best for pulverizing that we have ever met with"

"The reports from our mines as regards the working of your Fine Crusher (20×5) recently supplied are very favourable, although we cannot quote you exact figures. On being got into position it was tried by hand, with the result that it made short work of the biggest pieces of ore we put into the hopper. You might say how long you would take to deliver another of the same size."

"As I once before stated, your machine is a perfect pulverizer."

"I am sure the machine will be a success, and a great one, and there is any amount of demand for such a machine. We can work it with 20 lbs. of steam and our engine, which is a 12-h.p., plays with the work, in fact we run the Stonebreaker and the Pulverizer both together with 35 lbs."

STONEBREAKERS AND ORE CRUSHERS. TESTIMONIALS.

"We have great pleasure in testifying to the efficiency of the 15 in. by 8 in Lever Hand Hammer Motion Stone Breaker you supplied us with. We find that our 4 h-p. Engine with ease drives it 250 revolutions per minute, and breaks six tons per hour of the hardest "Diorite" Whinstone: the sample is much before any hand-broken we have ever got done. Our Mr. P. J. GRAHAM, C.E., who was Surveyor of Highways for ten years, before joining our firm, says: It is by far the most economical machine he ever had to do with; he had two of your former make, and two of another firm's make; compared with these four machines your new patent gives the following advantages:—The horse-power required to drive is exactly 40 per cent. less. The sample of the broken macadam is so far superior to that broken by other machines, and even to that broken by hand that we can make no comparison. I is by far the best sample we have ever seen."

"I now order three of your Stone Crushers, size 15 by 10, to be of your very best construction, and to include two extra sets of Jaws and Cheeks for each. The last two 24×13 machines you sent me, which are at work in this colony, are doing very well. You will soon find that the railway contractors will adopt your machines in preference to the colonial ones—two of which I have. I know other contractors have had as many as nine of them, which have not given very good satisfaction. Once they know of yours thoroughly, I believe you will do a good trade with the colonies. For reference of the high character of your constructions you can refer to me as having used them with the very best results, both in New Zealand and this colony, and much prefer them to the colonial article, both in point of construction and less liability to go out of order. The material we are crushing is very hard blue stone, for railway ballast purposes. Push on with the order as quickly as possible; I do not think it necessary to have any engineering inspection. I have brought your machines prominently under the notice of all large contractors in this colony, likewise the Government. Many of the contractors have spoken to me in reference to their capabilities, and I could only tell them that they are by far and away the best and most economical I ever used. The very fact of me having purchased eleven from you at various intervals and various sizes, and two above 12 years ago, and having tried all the other makers is sufficient guarantee of the capabilities and the working of your machines. Yours in every way surpass all others."

Charles Griffin & Co.'s Publications.

In Large 8vo, with Frontispiece and 716 Illustrations, price 34s.

ORE AND STONE MINING (A Text-Book of).

By C. LE NEVE FOSTER, D.Sc., F.R.S.,

Associate of the Royal School of Mines, one of Her Majesty's Inspectors of Mines, and Professor of Mining at the Royal College of Science, London, with which is incorporated the Royal School of Mines.

General Contents:—Introduction—Mode of Occurrence of Minerals—Prospecting—Boring—Breaking Ground—Supporting Excavations—Exploitation—Haulage or Transport—Hoisting or Winding—Drainage—Ventilation—Lighting—Descent and Ascent—Dressing—Principles of Employment of Mining Labour—Legislation affecting Mines and Quarries—Condition of the Miner—Accidents.

"AN INVALUABLE WORK OF REFERENCE for all English speaking Mining Engineers . . . . undoubtedly the BEST BOOK on the subject in the English language. . . . Should find a place in EVERY MINE OFFICE, and, by being carefully studied by MINE MANAGERS, should help to RAISE the British Ore and Stone Mining industries from their present depressed condition."—*Nature.*

"Dr. Foster's book was expected to be EPOCH-MAKING, and it fully justifies such expectation. . . . . A MOST ADMIRABLE account of the mode of occurrence of practically ALL KNOWN MINERALS. Probably stands UNRIVALLED for completeness."—*The Mining Journal.*

"This SPLENDID WORK."—*Oesterr. Ztschrft. für Berg.und Hüttenwesen.*

"A book whose WEALTH of INFORMATION is usually to be found diluted through a whole library of mining literature. . . . A friend and companion for both the Student and the Mining Engineer actually engaged in practice. . . . The descriptions are accompanied by a wealth of STRIKING and INVALUABLE DRAWINGS. . . . The TEXT is EXCELLENT, the information and examples are taken from the wide world over. . . . Mining regions in EVERY LAND have helped to contribute data which will be INVALUABLE to those engaged in mining. Finally, the Author has written so as to be understood by everyone."—*New York Engineering and Mining Journal.*

THE METALLURGY OF GOLD. By Thos. Kirke Rose,

D.Sc., Assoc.R.S.M., Assistant Assayer of the Royal Mint. In Large 8vo: Handsome Cloth. 21s.

"Dr. Rose gained his experience in the Western States of America, but he has secured details of gold working from ALL PARTS of the world, and these should be of GREAT SERVICE to practical men. . . . The four chapters on *Chlorination*, written from the point of view alike of practical men and the chemist, TEEM WITH CONSIDERATIONS HITHERTO UNRECOGNISED, and constitute an addition to the literature of Metallurgy which will prove to be of CLASSICAL VALUE."—*Nature.*

"The MOST COMPLETE description of the CHLORINATION process which has yet been published."—*The Mining Journal.*

LONDON: CHARLES GRIFFIN & COMPANY, LTD., EXETER STREET, STRAND.

ESTABLISHED 1851.

BIRKBECK BANK

SOUTHAMPTON BUILDINGS, CHANCERY LANE, LONDON.

TWO-AND-A-HALF per CENT. INTEREST allowed on DEPOSITS repayable on Demand.

TWO per CENT. on CURRENT ACCOUNTS on the minimum monthly balances, when not drawn below £100.

SAVINGS DEPARTMENT.

For the encouragement of Thrift, the Bank receives small sums on Deposit and allows interest monthly on each completed £1.

The Birkbeck Almanack, with full particulars, post free.

FRANCIS RAVENSCROFT, Manager.

THE LEADING AUTHORITY ON AUSTRALIAN MINING AND ENGINEERING INDUSTRIES.

THE AUSTRALIAN MINING STANDARD.

A RECORD OF MINING, FINANCIAL, and ENGINEERING PROGRESS (ILLUSTRATED)

Circulates throughout Australia and New Zealand amongst Miners Engineers, Manufacturers, Capitalists, and Investors.

PUBLISHED WEEKLY.

Subscription, 32s. per annum (payable in advance).

HEAD OFFICE—SYDNEY, N.S.W.

BRANCHES—MELBOURNE, BRISBANE, ADELAIDE, LAUNCESTON.

DELTA METAL

FOR ALL ENGINEERING WORK.

STRONGER AND MORE DURABLE THAN STEEL.

Specially Adapted for MINING WORK

on account of its very high Resistance to Corrosion.

DELTA

CAST, FORGED, STAMPED, ROLLED, DRAWN

For full Particulars and Prices apply to

THE DELTA METAL COMPANY (Ltd).

110, Cannon Street, London, E.C.

Telegrams:—"DELTA," London. Telephone No. 11292.

TURBINES.

Little Giant Turbine.

The well-known "LITTLE GIANT" for developing Water Power with any fall from 3 feet and upwards.

CATALOGUES FREE.

S. HOWES,

64, MARK LANE, LONDON.

Telegrams: BARBEAU, LONDON.

TELEGRAMS: TUCKS LONDON.

TUCKS

GENUINE PACKING

IS ONLY MANUFACTURED BY

TUCK AND CO., LIMITED.

116, CANNON STREET, LONDON;

And at LIVERPOOL, CARDIFF, NEWPORT, BARRY, SOUTHAMPTON, DUBLIN & MELBOURNE.

WRITE FOR SAMPLES & PRICE.

INDIARUBBER, LEATHER, AND ASBESTOS GOODS.

EDITORIAL AND ADVERTISEMENT OFFICES:—16, FINCH LANE, E.C.

Printed for the Registered Proprietors by JOHN ROBERT GALE, at their Printing Offices, 3, DORSET BUILDINGS, SALISBURY SQUARE, in the Parish of St. Bride's, in the City of London.—*December 1, 1894.*